# The Mining Journal
## RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 706.—Vol. XIX.] LONDON, SATURDAY, MARCH 3, 1849. [Price 6d.


### Stannaries of Cornwall—In the Vice-Warden's Court.

NOELL v. HOBSON.
*IN RE ALFRED CONSOLS MINE.*

NOTICE IS HEREBY GIVEN, that, pursuant to an ORDER, or DECREE, made in this cause, and bearing date the 10th day of February inst., a PUBLIC AUCTION will be HELD at CROTCH'S HOTEL, HAYLE, on Saturday, the 10th day of March next, at Three o'clock in the afternoon, for SELLING, in such lots as shall be then and there determined on, EIGHTY (1024ths) PARTS, or SHARES, of and in the said MINE, and the like PARTS, or SHARES, of and in the ORES, HALVANS, MACHINERY, MATERIALS, and other EFFECTS upon and belonging to the said mine.

For further information, application may be made to the agents on the mine, or to Mr. Stokes, solicitor, Truro. 1

Dated Registrar's Office, Truro, Feb. 21, 1849.

### Stannaries of Cornwall—In the Vice-Warden's Court.

PURSUANT to a DECREE of the VICE-WARDEN'S COURT, made in the CONSOLIDATED CAUSES of CRAZE and OTHERS v. TEGAN, the CREDITORS, in respect of WHEAL CURTIS MINE, in the parish of CROWAN, within the said Stannaries, are, on or before the 16th day of March next, to come in and PROVE their DEBTS before the Registrar of the said Court, at his office in Truro, or, in default thereof, they will be excluded the benefit of the said Decree. 2

Dated Registrar's Office, Truro, Feb. 21, 1849.

VALUABLE 52-inch cylinder PUMPING ENGINE, THREE BOILERS, AND OTHER USEFUL MINE MATERIALS FOR SALE.

THOMAS RICHARDS, Mine Agent and Auctioneer, Marazion, is instructed to hold a final and unreserved PUBLIC AUCTION, at WHEAL GREY, in the parish of GERMOE, on Tuesday, the 6th of March, for SELLING THE UNDER-MENTIONED

MINING MATERIALS—viz.:

1 52-inch cylinder STEAM-ENGINE, 9 feet stroke in cylinder, and 7 feet in shaft.
3 BOILERS, in excellent condition. 3
Capstan, shears, balance and angle bobs, horse-whims, sheds and roofs.
14 16-inch, 8 15-inch, 9 10-inch, 22 9-inch, and 9 8-inch pumps.
1 10-inch and 1 8-inch H-pieces and topdoors.
1 16-inch, 1 12-inch, 1 10-inch, 2 9-inch, 1 8-inch, and 1 7½-inch plunger poles, with pole cases, stuffing boxes, and glands.
All sizes of faggotted and wrought iron strapping plates.
Several clack doorpieces, working barrels, and windbores.
Smiths' tools, anvils, bellows, new and useful iron, scrap, wrought, and cast-iron.
Staples and glands, screw stocks, plates and taps.

Also, the COUNT-HOUSE FURNITURE, together with a large quantity and great variety of other materials in daily use in mines.

*The Sale will commence precisely at Ten o'clock a. m.*

Wheal Grey is situated within 3 miles of Porthleven, 4 miles of St. Michael's Mount, and 5 miles of Hayle.—Dated Marazion, Jan. 30, 1849.

SOURTON CONSOLS MINE, NEAR OKEHAMPTON.
VALUABLE MINE SETT, MINING MACHINERY AND MATERIALS.

MR. GEO. TRICKETT will SELL, BY PUBLIC AUCTION, on Wednesday, the 7th March, 1849, at the SOURTON CONSOLS MINE, situate in the parish of SOURTON, near Okehampton (subject to such conditions as shall be then and there produced), all that very valuable MINE SETT, called 4

SOURTON CONSOLS MINE,

(held under leases from J. M. Woolcombe, Esq., S. C. Hamlyn, Esq., and Mrs. F. B. Hamlyn, at 1-16th dues, for 21 years, from August 9, 1845), and which claimed the particular attention of the British Association at their recent geological survey of the county of Devon; together with all the MACHINERY and MATERIALS in and upon the said mine,

Consisting of a very excellent WATER-WHEEL, 40-feet high, 2½-feet breast, with oak axle, cast-iron sockets, saddles and brasses, complete.

16 fathoms of launders, sweep-rod, 36 feet long, with wrought-iron caps, saddles, and brasses, 212 fathoms of 2-inch flat-rods, with 40 flat-rod pulleys, bearings, stands, &c., 2 travelling-bobs, 1 balance-bob, shaft-bob, with iron work, saddles, brasses, &c., 1 horse-whim, 70 fathoms of whim-rope, whim-kibbles, iron and timber water barrels, 14 fathoms of 8-inch pump, 1 7-inch working barrel, 2 doorpieces, 1 windbore, 18 fathoms of bucket-rods, 3 fathoms of mainrod set-offs, &c., sheave pulleys, tackle, tackle ropes, kibbies and water barrels, wheelbarrows, flush hatches and launders, large cistern, carpenter's work bench, 2 large chests, 2 cwts. 6-inch and 7-inch spike nails, number of steel-pointed shovels, smiths' bellows (36-inch), anvil and vice, smiths' tools, screw taps and plates, chains of various sizes, miners' tools, 1 piece red pine, 43 feet long, 8 pieces of Norway balk, powder, safety fuse, and a variety of other useful articles.

The sale will commence at Twelve o'clock.—Refreshments will be provided.

For further particulars, application to be made to Capt. Thomas Teague, at Sourton; to the auctioneer, Post-office Chambers, Whimple-street, Plymouth; or to Messrs. G. and F. Marshall, solicitors, 26, Bedford-street, Plymouth.

Plymouth, Feb. 21, 1849.

NOTICE.—All persons having claims on the said mine, are requested to send in their respective accounts, and all persons indebted thereto to pay their amounts due from them to Messrs. G. and F. Marshall, solicitors, as above.

TO CAPITALISTS—ADVANTAGEOUS INVESTMENT.
NUNEATON NEW COLLIERY.

MESSRS. BROWN & CLARKE will SELL, BY AUCTION (by order of the mortgagee), at the CRAVEN ARMS HOTEL, COVENTRY, on Wednesday, the 7th day of March, 1849, at Three o'clock in the afternoon, subject to conditions, then to be produced, all that the 5

ABOVE-MENTIONED COLLIERY,

(being leasehold for a term of 42 years, 30 years of which are unexpired).

Comprising the COAL under TWENTY-ONE ACRES of LAND, with the necessary use of the surface. One pit has already been sunk through the Two-yard Slate and Seven-feet Coal, which are proved to be of excellent quality.

The situation for land sale is considered superior to any other colliery in the neighbourhood, and the canal is but a short distance, on a gentle descent from the works. About two acres only of the Slate Coal have been gotten.

Also, will BE SOLD, the excellent 35-horse power HIGH-PRESSURE ENGINE and BOILERS, complete, together with the flat-chains, pit-frames, capstan-rope, weighing machine and machine-house, office, stable, blacksmith's shop, pump-trees, pumping-rods, and two 8-inch lifts, and all other fixtures belonging to the shaft and works.

Also, a WATER ENGINE, 21-inch cylinder, works 7-feet stroke, with two counter-beams, and appendages complete for pumping.

Attached to the colliery is a brick-yard, with clay-mills, kilns, sheds, and every thing necessary for making a large quantity of bricks and tiles of very good quality.

For further particulars, apply to Messrs. Potts and Brown, solicitors, Chester; Messrs. Troughton, Lea, and Lea, solicitors, Coventry; or the auctioneers, Coventry.

At KIRTON TUNNEL, LINCOLNSHIRE, on the GAINSBORO' & GRIMSBY RAILWAY.
TO ENGINEERS, MILLWRIGHTS, RAILWAY CONTRACTORS, FARMERS, BUILDERS, &c.

MR. G. O. BROWN is honoured with instructions from Messrs. Stephensons who are about completing their contract, to OFFER, for unreserved COMPETITION, BY AUCTION, at the Workshops and Premises, upon and near the KIRTON TUNNEL, on Monday and Tuesday, March 5th and 6th, 1849, the remainder of their VALUABLE AND EXTENSIVE

STOCK OF RAILWAY PLANT, 6

which is far too large to be particularised within the limits of an advertisement, but which consists, in part, of THREE STATIONARY ENGINES—viz.:

ONE 25-horse power HIGH-PRESSURE HORIZONTAL ENGINE, fixed on a cast-iron frame, cylinder 1 foot 4½ inches diameter, stroke 3 feet, fly-wheel 12 feet, with two cylinder boilers each, 16 feet long, by 4 feet 8 inches diameter, with governors, complete, and in excellent working condition.

ONE 12-horse power HIGH-PRESSURE HORIZONTAL ENGINE, fixed on cast-iron frames, made by Mr. Isaac Dodds, cylinder 12 inches diameter, stroke 2 feet, one cylinder boiler, 17 feet 6 inches long, by 4 feet diameter, with a tube 17 feet 6 inches long, 1 foot 5½ inches diameter, fly-wheel 8 feet 5 inches diameter.

ONE 8-horse power CONDENSING ENGINE (marine construction), by Boulton and Watt, and on the expansive principle, in excellent condition, cylinder 1 foot 5½ inches diameter, stroke 1 foot 6 inches, fly-wheel 8 feet 5 inches, with new high-pressure cylinder boiler, 16 feet long by 3 feet diameter.

Also, winding and drawing gear, pumps, pump trees, pipes and pump tackle for colliery or tunnel work, including flat and round rope, skip, skip-wheels and axles, flat-rope 4 inch by 1 inch, round rope 2½ inches diameter, 1 incline rope, 400 yards long, 2 inches diameter, a large quantity of metal pulleys for inclines, millstones for grinding mortar,

a great quantity of tunnel centres, and a large quantity of

MEMEL, RED PINE, LARCH, SCOTCH, AND OTHER TIMBER,

in logs and scantling, various sizes and dimensions; 5000 feet 3 inch planks and battens, in lots to suit.

TWO TIMBER CARRIAGES, HARNESS for 20 horses, 2 neat dog-carts, nearly new, 1 market cart, ONE HUNDRED THOUSAND BRICKS,

3 single and 1 double horse carts, 20 three-wheeled carts, 200 navvy barrows, 20 brick barrows, brick tables, brick moulds, and brickmakers' tools in great variety, 1 winter brick shed, 183 feet long by 35 feet wide, full of flues.

TWO HUNDRED TONS of FLAT-BOTTOMED TEMPORARY T RAILS, from 40 to 45 lbs. per lineal yard. A quantity of inch square bars, 100 to 500 3½ and 3 yard earth waggons, several hearths of blacksmiths' tools, temporary shops and sheds, workshops, workmen's cottages, engine-houses, and a variety of other materials which cannot be particularised here.

The engines will be sold on Tuesday, the second day of sale.

Kirton Tunnel is on the Gainsborough and Grimsby Railway, 11 miles from Gainsborough, and 6 miles from Brigg, Lincolnshire.

*The Sale to commence each day at Ten o'clock precisely.*

Masborough, Rotherham, 1849.

MINES AND MINING MATERIALS FOR SALE.

MR. D. H. HAINSELLIN will SELL, BY PUBLIC AUCTION, on Friday, the 9th day of March next, at the BEDFORD HOTEL, in TAVISTOCK, at Two o'clock in the afternoon (subject to such conditions as will be then and there produced),—

ONE HUNDRED and TWENTY-THREE (128ths) PARTS, or SHARES, of and in all that COPPER MINE, called VIRTUOUS LADY MINE, situate in the parish of Buckland Monachorum, in the county of Devon,—and also

ONE HUNDRED and NINETEEN (128ths) PARTS, or SHARES, of and in the adjoining mine, called WHEAL BEDFORD MINE, situate in the parish of Tavistock, in the county of Devon,—and also all the

MACHINERY AND MATERIALS 7

*Of the said Mines, which are sufficient for effectually working them.*

The principal parts of which consist of a 40-feet WATER-WHEEL, 4-feet in breast, with rods, bobs, pumps, and every thing complete, in full work; a 28-feet WATER-WHEEL, 3-feet in breast, with a cast-iron axle, and every thing to make it complete, now on the mine, and can be erected at a small expense when wanted (the cost of this last-mentioned wheel was £400 from the foundry); a 20-feet WHEEL, 2-feet in breast, for a grinder and a 2-head stamp, all complete, and 16-feet stamp-wheel, with frames, lifters, &c., and in full work; also, a 12-feet WHEEL, for drawing machine or for jigging, with capstan-shears, and every other material requisite for carrying on the mines.

These mines are respectively held under leases from Sir Ralph Lopes, Bart., and his Grace the Duke of Bedford; they are very extensive setts, being nearly a mile in length on the course of the lodes, and about that distance from north to south. There are several lodes in these setts, one only that has been worked on, which is the Wheal Franco lode, and that only to the depth of 17 fathoms, from which the late proprietor has returned upwards of EIGHT THOUSAND TONS of COPPER ORE, which realised about FIFTY THOUSAND POUNDS!

This property is now offered for sale, in consequence of the recent death of the principal shareholder, and affords such an opportunity to mining speculators as seldom occurs.

The mines may at any time be seen by applying to Capt. Alexander W. Martin, at the Virtuous Lady Mine; and further particulars may be obtained either of Capt. Martin, or of Mr. Lavers, solicitor, Athenæum-lane, Plymouth.

Dated Feb. 24, 1849.

GLOUCESTERSHIRE.—TO CAPITALISTS DESIROUS OF SAFE AND PROFITABLE INVESTMENT.

THREE of the most extensive, valuable, and best situated COLLIERIES in her Majesty's FOREST OF DEAN,

About 800 acres in extent, which are computed to contain *six millions seven hundred and twenty-one thousand tons* of coal, of the best quality.

FOR PEREMPTORY SALE, BY AUCTION, by Messrs. GRAHAM (by order of the mortgagee), at the BELL HOTEL, GLOUCESTER, on Saturday, the 10th day of March, 1849, at Three o'clock in the afternoon, subject to conditions of sale, all those 8

HIGHLY IMPORTANT
COLLIERIES, OR COAL-FIELDS,

Known as the NEW ROAD LEVEL, the FAVOURITE, and BRITANNIA COLLIERIES.

LOT I.—THE FAVOURITE AND BRITANNIA.

The FAVOURITE is galed to the Coleford High Delf Vein of Coal, and all the other veins between it and the Churchway High Delf Vein. The BRITANNIA is also galed to the Coleford High Delf Vein of Coal, and all the other veins appertaining thereto. These two collieries contain about 600 acres of coal, and adjoin each other in the whole line of boundary. They are well situate, at a place called Brierly, four miles from Mitcheldean, surrounded by some of the best collieries in the Forest, and are in such an advantageous position that both (or the 600 acres of coal) may be thoroughly worked with the same establishment. The Severn and Wye Railway, leading to Bullo Pill and the port of Lidney, intersects a portion of these collieries within 20 yards of the intended pits, and joins the locomotive branches of the South Wales and Monmouth and Hereford Railways (for which Acts are obtained) a short distance to the east of them—thus rendering every facility required for the transit of coal to the principal marts in the kingdom,* and by an outlay of comparatively small amount of capital, the work may be put into full operation, yielding an average quantity of from 200 to 300 tons per day, producing a net income of at least £10,000 per annum.

* Extract of a report made upon the collieries, by J. Holdsworth, Esq., mineral surveyor, Billesdon, Leicestershire, June 22, 1839.

LOT II.—THE NEW ROAD LEVEL.

Is galed to the Yard Delf, or Yorkley, Vein of Coal, and is advantageously situated at Howler's Slade, near Canhope Bridge, adjoining the Severn and Wye Railway. There is a road already driven into the coal in this work, which is recently ascertained to be the purest in the Forest, being free from sulphur, and the formation of the vein is such (having a plain rock top) as to render it workable with little expense and with less than the usual labour or difficulty. This lot will be sold, subject to an agreement, bearing date the 3d of March, 1846, to let the said colliery to Messrs. Robert and David Mushet, for 14 years, at £225 per year, and 1s. per ton for every ton of coal raised by them over and above 15 tons per day. There will be three years' rent, or £675, due at the time of this sale, which the purchaser will be entitled to receive, likewise the rent in future, until the expiration of the term in 1860. This agreement is proved to be good. The parties have worked the colliery agreeable thereto, and are amply responsible.

[*This Advertisement will not be repeated.*]

Capitalists having any intention to attend this sale, may rest assured there will be

NO POSTPONEMENT.

These particulars and conditions of sale may be had at the principal inns in the adjacent towns; the place of sale; of T. Gratrex, Esq., banker, Monmouth (the mortgagee); the auctioneers, Ragland and Newport; and for a view of the Map of the Forest and the plan of the collieries, apply to John Atkinson, Esq., Coleford, H.M.'s Deputy Gaveller for the Forest of Dean; or to the proprietor, Mr. William Court, Monmouth.

CORNWALL—TYWARNHAILE MINES.

IMPORTANT AND VALUABLE COPPER MINES TO BE LET, BY PRIVATE CONTRACT, comprising the extensive SETTS formerly KNOWN AS 9

UNITED HILLS, SOUTH TOWAN, WHEAL CHARLES, and WHEAL FANCY,

belonging to the Duchy of Cornwall, in the parish of SAINT AGNES.—These mines having been surrendered to the Duchy by the late lessees, during the extreme pressure of the latter part of the year 1847, have since been placed in good working order, and are yielding large and increasing returns. They are now to be leased, at a moderate rate of dues, for a term of 21 years.

An arrangement can be made for putting the lessees of the Tywarnhaile Mines in possession of the adjoining setts of Wheal Sparrow, West Wheal Sparrow, Basset's United Hills, Wheal Clarence, and Wheal Lydia, the property of the representatives of the late John Basset, Esq.

Proposals will be received at the Duchy of Cornwall Office, Somerset House; and any further information may be obtained by application there, or to R. Taylor, Esq., Falmouth.

Duchy of Cornwall, Somerset House, Feb. 20, 1849.

GLAMORGANSHIRE.

COAL MINES TO BE LET.—THREE VALUABLE BITUMINOUS SEAMS, or VEINS, of COAL, lying in and under Farms and Lands called GELLIWION (or Tydraw) and GELLIDRAWS, situate in the parishes of LANTRISSENT and LANTWITVARDRE, at the entrance of the Rhondda Valley, in the Vale of Taff, Glamorganshire. One of the seams may be worked, by level, under the principal part of the property, and the other two may be won and worked by pits of moderate depth: they are peculiarly adapted for household, manufacturing, and smelting purposes. The coal supplied for working the trains on the Great Western Railway, is of the same quality as one of the seams.

The property is admirably situated for the erection of works, and there are great facilities for the construction of reservoirs, and for adequate supplies of water. There is an abundance of railway stone and materials near the spot, within two miles of which the Taff Vale Railway and the Glamorganshire Canal, from Merthyr to Cardiff, run. It is situate also about the same distance from the market and post town of Newbridge, and within 14 miles of the town and port of Cardiff. 10

The COAL will BE LET on ROYALTY, and a dead, or reserved, rent will be required. Possession may be had immediately.

The extent of the property is 333 acres, or thereabouts.

Further particulars may be obtained at the office of Mr. E. P. Richards, solicitor, Cardiff; and the property may be viewed on application to the tenants; or to Mr. Thomas Jones, White Hart, Newbridge.

VALUABLE SLATE QUARRY, in CARNARVONSHIRE.—TO BE LET, for such term, and on such conditions, as may be agreed upon, the RIGHT of WORKING a valuable ROCK of SLATE, on the BLAENY-CWM-FRIDD, in the parish of PENMACHNE, upon which a large sum of money has been expended in driving a level, and in other works. The metal of this rock has been proved to be equal to that of the finest Festiniog Quarries, which lie in the vicinity. The undertaking would suit a joint-stock company or a private speculator, as it can now be brought into early and extensive work, at a comparatively small outlay. 11

For particulars apply to Francis Hallowes, Esq., National Provincial Bank, Dolgelly; and to view the quarries, to Mr. Humphrey Williams, Blaeny-cwm Farm, Penmachne.

OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN.

J. MURDOCH (successor and late assistant to Mr. Hebert)

Informs INVENTORS and PATENTEES, that, at his OFFICE, they can obtain 12

REFERENCE TO A CLASSIFIED LIST OF PATENTS,

(THE ONLY ONE EXTANT), which shows at one view all the Patents ever granted for any particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and USEFUL and ORNAMENTAL DESIGNS REGISTERED.

SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms.

FINISHED and WORKING DRAWINGS executed with accuracy and dispatch.

MALLEABLE IRON-WORKS & PROPERTY FOR SALE.—The MALLEABLE IRON-WORKS and LANDS of BRAIDHURST and WILTON, belonging to the West of Scotland Malleable Iron Company, as formerly advertised.—Apply to Mr. James Anderson, 88, St. Vincent-street. 13

Glasgow, March 1, 1849.

NORTH FOWEY CONSOLS MINE.—The AUCTION, as advertised last week, for selling the Engine, Materials, &c., on Tuesday, the 7th of March inst., is POSTPONED.—Dated March 1, 1849. 14

WANTED,—A SITUATION, by an experienced Copper Smelting Furnace Builder; also by FIVE experienced Burners and Smelters of Copper Ore—would have no objection to go to any part of the world.—Address "X. Y. Z." at the office of the *Mining Journal*, 26, Fleet-street, London. 15

TO GAS COMPANIES, WATER COMPANIES, AND OTHERS.—TO BE DISPOSED OF, about NINETY 24-inch MAIN PIPES, at —per ton.—Application for particulars as to price, &c., to be made to the Storekeeper, at the Chartered Gas-Light and Coke Company's Works, Horseferry-road, Westminster. 16

February, 1849.

TO BE SOLD, a PUMPING-ENGINE, 30-inch cylinder, 9 ft. stroke, built by Mr. West, engineer, nearly new—only been worked about three years—no engine ever done better duty when at work: together with a SEVEN-TON BOILER, SPRING BEAM, and first set of rod-shaft attached, for £400. The engine is within a few miles of a good shipping port, being near Liskeard—one good road.—For particulars apply to Capt. Osburn, Liskeard; or Mr. Wm. Rendle, Octagon, Plymouth. 17

FOR SALE, a SECOND-HAND 60-horse HIGH-PRESSURE PUMPING ENGINE, 30-inch cylinder, 7-ft. stroke, with two large boilers, in excellent condition. Also, a 10-horse ATMOSPHERIC DRAWING-ENGINE, with boiler, cog-wheels, and drum—the cylinder constructed so as to be easily altered into a 20-horse condensing engine. Also, a LOT of 15-inch PUMPS. 18

Apply to Mr. William Clark, Holmes Colliery, Rotherham, Yorkshire.

STEAM-ENGINES FOR SALE—A BARGAIN.—A PAIR of MODERN ENGINES, of 160-horse power each, with BOILERS—all equal to new; fitted to Smith's Patent Propeller, and complete, with driving wheel, funnel, steam-pipe, gearing, &c., admirably adapted for a ship of large tonnage, or for mining purposes. Also, TWO PAIRS of MARINE BEAM ENGINES, by Fawcett and Co., of Liverpool—each engine of 65-horse power, in capital condition.—For particulars apply to Messrs. Bayley and Ridley, 3, George-yard, Lombard-street. 19

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM. 20

*Price*—£12 to £16; with boiler, £22 per horse.

TO CAPITALISTS.—An OPPORTUNITY now presents itself to CAPITALISTS for INVESTING advantageously in a SLATE QUARRY, on which a large sum has already been expended, and which is now so far opened up, that an immediate return of 5 per cent. per annum can be obtained from it, with the prospect of very large profits in another year. The slate is abundant, and of the finest quality, and the situation of the quarry is favourable for the removal of the produce and rubbish. It is worked on the Cost-book System, whereby the liability of the adventurers is restricted, and the whole property is now held by four individuals, who are desirous of being associated with two or three other gentlemen of respectability and substance.

Applications from parties who may be inclined to take an interest in the quarry, may be addressed to "A. B. C.," at Mr. Lett's, stationer, Royal Exchange, London. 21

March 2, 1849.

GROWA SLATE COMPANY.—PERSONS desirous of becoming AGENTS for this COMPANY in the different TOWNS and SEAPORTS, are requested to apply by letter, addressed to the purser, at the offices, 57, Threadneedle-street, London, where prospectuses and every information may be obtained. 22

EAST BIRCH TOR TIN MINE.—APPLICATIONS for the FEW SHARES in this COMPANY remaining unappropriated, to be made to the secretary, 2, Winchester-buildings. 23

RUNNAFORD COOMBE MINE.—An excellent opportunity is now OFFERED to any person wishing to PURCHASE SHARES in the above valuable concern.—Mr. BROUGHTON has FOR SALE a FEW SHARES, very cheap. 24

Apply to Mr. Broughton, 30, Taylor's-buildings, Woolwich.

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.: St. John 'del Rey, Tamar, Treviskey and Barrier, Great Devon Consols, Alten, Australian, Condurrow, East Wheal Rose, and Wheal Seton Mines, Great Consols Gwennap, Treviskey, Trethellan, Mary Anne, East Tamar, Tincroft, and Keswick Mining Company. 25

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities. 26

MINING OFFICES, No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON.—Mr. RICHARD THOMAS (who has had 20 years' experience as a mining agent in London) OFFERS his SERVICES in the PURCHASE and SALE of MINE and OTHER SHARES, on commission. Purchases in many valuable mines may now be made at unprecedently low prices. The fullest information given (without charge) relative to mining investments and operations. 27

N.B.—R. T. has now ON SALE a limited number of SHARES in an undertaking offering unusual advantages, situated in one of the best mining districts in Cornwall.

Full particulars will be furnished on application.

MR. GEORGE BATE, Jun., CIVIL ENGINEER AND SURVEYOR, *WOLVERHAMPTON.* 28

Offices in Queen-street, corner of Piper's-row.

N.B.—UNDERGROUND MINING SURVEYS accurately executed.

MR. THOS. P. THOMAS, MINING AGENT, AND DEALER IN RAILWAY, GAS, BANK, INSURANCE, AND OTHER SHARES. 29

3, *GEORGE-YARD, LOMBARD-STREET, LONDON.*

T. P. THOMAS is a SELLER of SHARES in the leading MINES of Cornwall, Devon, and Wales—paying from 10 to 30 per cent.—Statistical information afforded upon personal application, or by letter.

JAMES LANE, MINING SHARE DEALER, 30

80, *OLD BROAD-STREET, LONDON.*

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY, KILLICK, & CO.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.—6, Bank Chambers, opposite Bank of England. 31

WICKLOW COPPER MINE COMPAND.—The DIVIDEND of FIVE POUNDS PER CENT., declared for the past half-year, will be PAYABLE on and after the 1st of March next, at the office of the Company, Leinster Chambers, Dame-street, Dublin; and in London, at the banking-house of Messrs. Puget, Bainbridge, and Co.—Dublin, Feb. 24, 1849. 32

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall. 33

CAUTION.—"One of the most useful articles that can be possessed is Robinson's Patent Liquid Glue."—*Times.* From the acknowledged excellence of ROBINSON'S PATENT LIQUID GLUE, which may now be had in nearly every important town in the kingdom, has arisen numerous spurious imitations. Be particular to ask for Robinson's Patent Liquid Glue—none else is genuine. Neither time nor climate, hot nor cold fluids, affect it.—"It unites permanently severed glass, china, wood, cast-iron, stone, or marble."—*Douglas Jerrold's Weekly Newspaper.* "An extremely valuable addition to the store of domestic requisites."—*Atlas.* 34

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## DAMP AND GASEOUS EXHALATIONS.
SANATARY MEASURES.

All MEMBERS of BOARDS OF HEALTH are especially DIRECTED to the most EFFECTIVE MEANS which they can ADOPT to PREVENT the injurious and often FATAL EFFECTS upon the HEALTH of the COMMUNITY, arising from exhalations that are produced from moisture, decayed animal matter (as in grave-yards), stagnant water, and collections of fœtid refuse, tending to produce a miasmatic state of atmosphere. In situations so effected, the impervious quality of the ASPHALTE of SEYSSEL renders it the most perfect PAVEMENT or COVERING that can be relied upon for hermetically closing, and thereby preventing the rising of moisture and escape of noxious vapours. The present extensive application of this material for covering roofs, terraces, and arches, for preventing the percolation of wet, is strong evidence of its effectiveness for the above purposes, which is further confirmed by the following extract from the Report of the Commissioners on the Fine Arts:—

"In 1839, I superintended the construction of a house of three stories on the Lac d'Enghein. The foundation of the building is constantly in water, about 10½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered at the level of the internal ground floor with a layer of SEYSSEL ASPHALTE,* less than half an inch thick, over which coarse sand was spread.

Since the above date, no trace of damp has shown itself round the walls of the lower story, which are for the most part painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ in. above the external surface of the soil, and only 19½ in., at the utmost, above that of the sheet of water.

The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

* This method has been adopted at the new Houses of Parliament. 35

Seyssel Asphalte Company, Stangate, London. I. FARRELL, Secretary.

## KEATING'S COUGH LOZENGES—Under PATRONAGE OF ROYALTY AND THE AUTHORITY OF THE FACULTY.

COUGHS, ASTHMATIC AND CONSUMPTIVE COMPLAINTS, SHORTNESS OF BREATH, HOARSENESS, &c., EFFECTUALLY and SPEEDILY CURED by their use.

They have deservedly obtained the high patronage of their Majesties the King of Prussia and the King of Hanover—very many also of the Nobility and Clergy, and of the public generally, use them, under the recommendation of some of the most eminent of the faculty. Such medical testimony must be convincing of their efficacy.

Being made from the prescription of an eminent physician, they are confidently recommended to persons subject to the above complaints.

*Allow the Lozenges to dissolve in the mouth gradually.* 36

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COUGH CURED AFTER AN ATTACK OF INFLUENZA.

St. Ives, Hants, January 13, 1848.

SIR,—Having been attacked by the influenza, a short time ago, it left me with a very troublesome cough—was recommended to try your Lozenges, which, I am happy to say, completely cured me, after only taking half a box of them. I shall always feel the greatest pleasure and confidence in recommending your Lozenges to my friends.

I am, Sir, your most obedient servant,

Thomas Keating, Esq. THOS. E. DAVIS.

ON NERVOUS DEBILITY AND GENERATIVE DISEASES.

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## MANHOOD: the CAUSES of its PREMATURE DECLINE,

with plain directions for its perfect restoration. A Medical Essay on those diseases of the Generative Organs, emanating from solitary and sedentary habits, indiscriminate excesses, the effects of climate, and infection, &c., addressed to the sufferer in youth, manhood, and old age; with practical remarks on marriage, the treatment and cure of nervous and mental debility, impotency, syphilis, and other urino-genital diseases, by which even the most shattered constitution may be restored, and reach the full period of life allotted to man. The whole illustrated with numerous anatomical engravings on steel, in colour, explaining the various functions, secretions, and structures of the reproductive organs in health and disease; with instructions for private correspondence, cases, &c.—By J. L. CURTIS, consulting surgeon, 7, Frith-street, Soho-sq., London. 37

REVIEWS OF THE WORK.

We feel no hesitation in saying, that there is no member of society by whom the book will not be found useful—whether such person hold the relation of a parent, preceptor, or a clergyman.—*Sun*, Evening Paper.

J. L. Curtis, *On Manhood, and the Causes of its Premature Decline; with Plain Directions for its Perfect Restoration.*—[Strange, Paternoster-row.]—This is a book replete with valuable advice and information. It developes the fearful shoals on which a large proportion of human happiness is wrecked, and furnishes a chart by which they may be avoided and escaped. Fortunate for a country would it be, did its youth put into practice the philanthropic and scientific maxims here laid down. One cause of matrimonial misery might then be banished from our land, and the race of the enervate be succeeded by a renewal of the hardy vigorous spirits of the olden time.—*United Kingdom Magazine.*

*Manhood:* a medical work.—To the gay and thoughtless we trust this little work will serve as a beacon to warn them of the danger attendant upon the too rash indulgence of their passions—whilst to some it may serve as a monitor in the hour of temptation, and to the afflicted as a sure guide to health.—*Chronicle.*

*Manhood:* by J. L. Curtis and Co.—Their long experience and reputation in the treatment of these painful diseases is the patient's guarantee, and well deserves for the work its immense circulation.—*Era.*

Published by the author, and may be had at his residence; sold also by Strange, 21, Paternoster-row, London; Heywood, Oldham-street, Manchester; Philip, South Castle-street, Liverpool; Robinson, 11, Greenside-street, Edinburgh; Campbell, chemist, 146, Argyle-street, Glasgow; Berry and Co., Capel-street, Dublin; and by all booksellers.

## NEW MEDICAL WORK.—Dr. G. T. HUNTER on Diseases

and Weakness of the Generative Organs, containing a popular anatomical description of the parts—contagious diseases, gonorrhœa, syphilis, &c.—their prevention and cure; chronic diseases, including gleets, rheumatism, and a new method of treating strictures; spermatorrhœa and weakness; enervation of the physical and mental powers, by the practice of secret vice or excessive indulgence; matrimony, its obligations, expectations and disappointments; with a long Appendix of prescriptions and instructions. The whole compiled with a view to affording a safe guide for self-treatment, and containing a greater amount of genuine practical information than is to be found in any work of the kind hitherto published.—Sold at 115, Fleet-street; and sent free for 2s., in money or stamps, by J. Barkley, 37, Leicester-square, London. 38

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and decay of the generative system, from excessive indulgence, infection, and the inordinate use of mercury, with remarks on marriage, and the means of obviating certain disqualifications, illustrated by 26 coloured engravings. By R. & L. PERRY & Co., consulting surgeons, 19, Berners-street, Oxford-street, London. Published by the authors; sold by Strange, 21, Paternoster-row; Hannay, 63, and Sanger, 150, Oxford-street; Starie, 23, Titchborne-street, Haymarket; and Gordon 146, Leadenhall-street.

PART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—PART THE SECOND treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity; it is illustrated by three explanatory engravings.—PART THE THIRD treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. This section is illustrated by 17 coloured engravings.—PART THE FOURTH contains a prescription for the prevention of disease by a simple application, by which the danger of infection is obviated. This important part of the work should not escape the reader's notice.—PART THE FIFTH is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into. 39

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Doctor of Medicine, Matriculated Member of the University of Edinburgh, Licentiate of Apothecaries' Hall, London, Honorary Member of the London Hospital Medical Society, &c. 40

REVIEWS OF THE WORK.

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# Transactions of Scientific Bodies.

*MEETINGS DURING THE ENSUING WEEK.*

| | | |
|---|---|---|
| THIS DAY | Asiatic—5, New Burlington-street | 3 P.M. |
| MONDAY | Entomological—17, Old Bond-street | 8 P.M. |
| | British Architects—16, Grosvenor-street | 8 P.M. |
| | Chemical—Society of Arts, Adelphi | 8 P.M. |
| | Medical—Bolt-court, Fleet-street | 8 P.M. |
| | Pathological—21, Regent-street, Waterloo-place | 8 P.M. |
| TUESDAY | Linnean—Soho-square | 3 P.M. |
| | Horticultural—21, Regent-street | 3 P.M. |
| | Civil Engineers—25, Great George-street | 8 P.M. |
| WEDNESDAY | Society of Arts—Adelphi | 8 P.M. |
| | Geological—Somerset-house | 8½ P.M. |
| THURSDAY | Royal—Somerset-house | 8½ P.M. |
| | Antiquaries—Somerset-house | 8 P.M. |
| | Royal Society of Literature—St. Martin's-place | 4 P.M. |
| FRIDAY | Astronomical—Somerset-house | 8 P.M. |
| | Royal Institution—Albemarle-street | 8½ P.M. |
| | Philological—London Library, 12, St. James's-square | 8 P.M. |
| SATURDAY | Royal Botanic—Inner Circle, Regent's Park | 3½ P.M. |
| | Westminster Medical—17, Saville-row | 3 P.M. |

## THE ROYAL SOCIETY—DIA-MAGNETISM.

On Monday last, by the especial desire of Prince Albert, Dr. Faraday delivered a discourse at the Royal Society, on the dia-magnetic and magne-metallic condition of bodies. The lecture-room was crowded in every part. There were a considerable number of lady visitors present, amongst whom we noticed Miss Burdett Coutts, Lady Bolleau, Mrs. Marcet, &c.

His Royal Highness, who was attended by Lieut-Colonel Seymour and the Hon. Colonel C. B. Phipps, entered the lecture room at 3 o'clock, and having been conducted to the chair, Dr. Faraday commenced the subject of his lecture by exhibiting the manner in which a piece of iron acts on the magnetic needle, and contrasting it with the total absence of all influence upon it displayed by copper and glass, yet he assured his auditory that inert as these bodies seemed in these experiments, he would demonstrate that they, and every other substance in nature, were capable of being influenced by the magnetic fluid. In further showing experimentally the distinction between magnetic and what are called non-magnetic metals, he exhibited a spark of the voltaic light, now so popular, the intense illumination from which, in spite of the conflicting daylight, made itself distinctly apparent in the most remote portions of the apartment. He then proceeded to explain, in familiar language, the construction and the powers of the great electro-magnet with which the room is furnished, and the numerous appliances by which its power is brought to bear upon the different substances submitted to its influence, and he solicited particular attention to the strange state of the space lying between the poles of the magnet, or what is termed the magnetic field. Having suspended a piece of copper in the magnetic field, he demonstrated that no influence was exercised on it, the mass spinning round freely, but upon the circulation of the electric current round the magnet it immediately became stationary. A flattened piece of copper brought into contact with the magnet moved freely to and fro, but when the magnetic power was put on, great resistance was offered to its movement. After explaining, with the aid of a diagram, the direction of the lines of magnetic force, he showed that glass, paper, bismuth, water, &c., when submitted to the action of the magnetic power, came to rest in a line opposite to or transverse to the ordinary line of magnetic force. These were called dia-magnetic bodies, and all substances, not merely inorganic or amorphous, but organic also, if not magnetic, were dia-magnetic. A piece of apple and a fish having been suspended in the magnetic field, were shown to be dia-magnetic bodies, coming to rest in a line transverse to the magnetic axis. The power of the magnetic current over flame, smoke, and gases, was next shown by means of very ingeniously arranged machinery.

Having experimentally sustained and illustrated the law, that all bodies are either attracted to the poles, and are magnetic, or are repelled and are dia-magnetic, as in bismuth, &c., he proceeded to investigate the extraordinary kind of polarity exhibited by crystals of bismuth. He showed that a group of symmetric crystals of bismuth, suspended in the magnetic field between horizontal poles, vibrated about a certain position in the same way as a magnetic needle. When suspended, so that the horizontal line, which is transverse to the magnetic axis, becomes the vertical line, the crystal points with the greatest amount of force; but when placed so that the line parallel to the magnetic axis becomes vertical, all directive force is lost. This line of direction he called the magne-crystallic axis, and it is perpendicular to the most perfect of the planes of the crystal. Whether this axis is parallel or transverse to the magnetic pole, the bismuth is in both cases repelled, and the amount of repulsion is the same. It was shown that a crystal of sulphate of iron could be made to recede from the magnet under the influence of this magne-crystallic force, which tended to make the magnetic and magne-crystallic axis parallel. A crystal of bismuth being employed, that body was made to approach the magnetic pole, under the influence of the magne-crystallic force, from which facts he deduced the conclusion that it is neither attraction nor repulsion which determines the position, or causes the set of a magne-crystallic body, and that the force was in a great measure dependent on the crystalline condition of the body itself. The discovery of this peculiar power in nature for determining the set of bodies was very recent, but they hoped, ere long, to discover the whole truth. A great discovery in natural science, whose results the most powerful imagination could not anticipate, was even then looming before them; and the interest which had been manifested in their pursuits by the presence of his Royal Highness on that occasion would form an additional incentive to perseverance in those paths of investigation which, in all probability, would ultimately conduct to a successful issue. On the termination of the address, his Royal Highness approached the lecturer's table, and himself performed, under the superintendence of Dr. Faraday, several of the experiments which had been exhibited.

The Prince retired amid the loud applause of all present.

## ROYAL SCOTTISH SOCIETY OF ARTS.

At a recent meeting of the society, held in their hall, Prince's-street, Edinburgh, JOHN CAY, Esq., F.R.S.E. (president) in the chair, the following communications were made:—Description and drawing of a bowstring bridge-rib, by Messrs. Fox, Henderson, and Co., London Works, Birmingham. Thanks voted.—Description of an improved window-sash, allowing the outside of the window to be cleaned or glazed without danger, by Mr. Charles Deans, Forres. This safety-window effectually prevents all chance of accident, as the glass of both the upper and lower division may be cleaned with perfect ease and safety by a person standing on the floor inside of the window. The principle is applicable to every form of modern window, and consists in the panes of glass being contained in a separate frame, which is to be exactly adjusted to and fitted in the sash, to which it is to be attached on one side by hinges, the other side remaining free, and opening inwardly like a door. In appearance it can scarcely be distinguished from the present window, and the expense is not materially different.—Referred to a committee.

A description of the wax-candle safety mining lamp, by Mr. John Crane, of Lee-crescent, Edgbaston, near Birmingham. [See *Mining Journal*, July 22, and Sept. 2.] The lamp was exhibited.—This lamp was stated to be of simple but safe construction. Coal-pits being subject to the presence of an explosive gas called fire-damp, which, upon contact with flame, is exploded, the necessity of lighting coal-pits with non-exploding or safety-lamps becomes evident. Coal-pit explosions are all the result of negligence, and, therefore, by means of proper care, are avoidable. That to work coal-pits safely it is not only necessary to use safety-lamps, but also to take care to use such lamps properly. Many terrible explosions have occurred during the use of safety-lamps, because the men (with a view of obtaining more light) have interfered with their lamps, and rendered them unsafe. If the common safety-lamps afforded a better light than a naked candle, there would then be no inducement to tamper with them, and the prime cause of many explosions would be removed; and if they were constructed so that they could not be tampered with by any thoughtless miner, then (supposing that no naked lights were used in pits, but in every case safety-lamps of proper construction) coal-pit explosions would be no more heard of. The author's wish was to accomplish so desirable an end by designing lamps possessing such advantages, and by recommending the adoption of a more careful mode of working pits. He thinks in few cases it will be advisable to intrust the miners with the care of the lamps; but that in most cases fit persons be appointed to keep and manage the lamps, who must be held responsible for any neglect of care on their part. The wax candle safety-lamp is stated to afford a good light, and is fitted with a padlock and staple, so that it may be securely fastened up. It is put into the hands of the collier ready lighted and locked, and will need no interference till the candle is consumed, when he must apply to the lamp keeper for a fresh one. Wax candles (such as are used in many carriage lamps) are burnt in this lamp. The front is made of thick glass, the sides and top of wire gauze, and the body of the lamp of tin plate. The candle is inclosed in a tin tube, secured at bottom by a stopper, which is screwed and unscrewed with a key. After the candle is lighted, the top is shut down and locked, and both keys kept by the superintendant of lamps. The same keys will unlock any number of lamps, if they be made similar. A helical wire spring inside the tube keeps the candle always at the same height. Over the two wire sides are hinged two tin covers, which effectually protect the flame from the evil influence of wind. This lamp can be made of various sizes to suit different candles; those which the author has made are four inches square, and about 11½ inches high. A large ring is fixed to the top of the lid, by which the lamp is suspended when in use. The wire gauze inside the lid must be cleaned with a brush when necessary. The lamp is strong, and is not likely to be put out of order. The author's wish and desire is to see an end put to explosions, and thereby to render the occupation of the collier—arduous and unpleasant as it always will be—less dangerous by ridding it of its great terror. Referred to a committee.

The Secretary read an abstract of a paper "On the present state of Electricity, as applied to Telegraphs." By Nathaniel J. Holmes, Esq., engineer.

## INSTITUTION OF CIVIL ENGINEERS.

FEBRUARY 27.—JOSHUA FIELD, Esq. (President), in the chair.

The paper read was "On Fire-proof Buildings," by Mr. James Braidwood, Assoc. Inst. C.E. After alluding to the paper by Mr. Fairbairn, on the construction of buildings of this description, which was read during the session of 1847, the author proceeded to analyse the evidence as to the capability exhibited by cast and wrought-iron beams for sustaining weights, where they were exposed to any extreme changes of temperature. He then demonstrated, by a collection of specimens of metal from buildings that had been destroyed by fire, that occasionally the temperature in the conflagration of large buildings rose almost to the melting point of cast-iron, and that, even in a small fire, beams and colums of cast-iron would be so affected by the heat and the jets of water upon them, that they would probably be destroyed, and sometimes cause a fearful loss of life; as in many of the so-called fire-proof warehouses of the city, a number of persons employed on the premises slept in the upper floors, and, if the lower beams gave way, the whole would be dragged down suddenly; whereas timber beams resisted fire some time, and allowed time for the inmates to escape. The firemen, also, were liable to more danger from the same circumstance; as the only chance of extinguishing fires was to send them into the buildings with the branches and water-hose; but where there was such evident danger, the men were forbidden to enter, and limited their efforts to restraining the spreading of the fire.

Another point which the author considered had not been sufficiently insisted on, was the derangement of the brickwork by the expansion of the iron beams at high temperature, and its sudden contraction on the application of cold water; and, also, from the mortar becoming completely pulverised by the excessive heat—instances of which have been known to occur.

The following were the principles on which Mr. Fairbairn proposed to construct fire-proof buildings:—

1. The whole of the buildings to be composed of incombustible materials, such as iron, stone, or brick.
2. That every opening or crevice communicating with the external atmosphere be kept closed.
3. An isolated stone or iron staircase to be attached to every story, and to be furnished with a line of water-pipes communicating with the mains in the street.
4. The different warehouses to be divided by strong partition walls, and no more openings to be made than are absolutely necessary.
5. That the iron columns, beams, and brick arches be of a strength sufficient not only to support a continuous dead pressure, but also to resist the force of impact to which they are subject.

Lastly. That in order to prevent the columns from being melted, a current of cold air be introduced into the hollow of the columns from an arched tunnel under the floors.

Mr. Braidwood argued that there could be no doubt, if the second principle could be enforced, a fire would go out of itself; but it was very doubtful if the object was not defeated by carelessness in leaving a door or window open just at the time when a fire occurred. The fifth principle showed that Mr. Fairbairn had not laid sufficient stress on the loss of strength to the iron consequent on an increase of temperature; and the last principle, it was thought, would not be likely to answer the purpose, as a specimen of 1½ inch cast iron pipe, on being heated in the centre, with both ends open, and a current of air passing through it, gave way, on one end being held in a vice and the other pulled with slight force by the hand, after an exposure of only four minutes in the fire.

For these reasons and others, the author submitted that large buildings, containing considerable quantities of combustible goods, and constructed on the usual system, were not practically fire-proof; and that the only construction which would render such buildings safe, would be groined brick arches, supported by pillars of the same material laid in cement. The author was also of opinion, that the loss by fire would be much reduced if warehouses were built of a more moderate size, and completely separated from each other by strong party walls, instead of being constructed in immense ranges, into which, when fire once penetrated, it set set at defiance all efforts to extinguish it.

In the discussion which ensued, the accuracy of Mr. Braidwood's general statements was fully accorded; and it was generally acknowledged, that the principles upon which many buildings, particularly dwellings, were constructed were very erroneous. It was argued, that even with the ordinary materials, if attention was paid to filling in the partitions and ceilings, as practised in France, and mentioned in Professor Hosking's book on the construction of buildings, using slate or stone for the stairs, as from its present cheapness might be done, taking care to support the steps properly, a fire would spread very slowly, and would allow ample time for the escape of the inhabitants. Beardmore's, Fox and Barrett's, and Nasmyth's new systems of flooring, were all alluded to; as was Mr. P. Fairbairn's fire-proof dwelling-house at Leeds, of which a drawing and description was promised for the next meeting. Chubb's, Marr's, and other fire-proof safes were advantageously mentioned, and were shown to have effectually preserved the deeds within them in the most intense conflagrations. It was announced, that at the next meeting, of Tuesday, March 6, "A Description of the Camden Station of the London and North-Western Railway," by Mr. R. B Dockray, M. Inst. C.E., would be read; and that the monthly ballot for members would also take place.

## THE CAVENDISH SOCIETY.

The first anniversary of this interesting society was held at the house of the President, Professor Graham, Gordon-square, on Thursday last.

Among the gentlemen present were—Professor Wheatstone; Henry Watts, Esq.; Arthur Taylor, Esq.; T. N. Morrison, Esq.; Walter Delarne, Esq.; J. J. Griffin, Esq.; Dr. Longstaff; Dr. Lyon Playfair; Dr. Edmund Ronald; Robert Warrington, Esq.; Messrs. Russell, Rudall, Gladstone, Redwood, &c.

The chair was occupied by Professor GRAHAM (the president), who, in opening the business of the day, congratulated the meeting on the encouraging prospects of the society.—Mr. REDWOOD then read the report, as follows:—

The period having arrived for holding the first anniversary of the Cavendish Society, in accordance with the law made at the last general meeting in July last, the council present to the members a statement of their proceedings during the time they have been in office. This society, although established in 1846, was not fully developed, or actively put into operation, until the last year, when the laws for its government were passed, and the publication of its works commenced. All subscriptions, which have been previously received, were made to refer to the year 1848, and the financial report, which the council have now to lay before the members will, therefore, include the whole receipts and expenditure up to the commencement of the present year.

At the period of the last general meeting, the treasurer had received the subscriptions of 155 members, in addition to which the names of 368 gentlemen who had intimated their intention of joining the society, when it should have commenced operations, have been communicated to the secretary. The council then in office thought the promises of support which they had received were sufficient to justify them in preparing the books intended for the first year's publication of this society. The first volume of *Chemical Reports and Memoirs* was nearly ready for circulation at the time of the general meeting, and its distribution was commenced soon afterwards. The first volume of the translation of *Gmelin's Handbook of Chemistry* has been subsequently completed, and placed in the hands of the members. While these works have been in the course of circulation, the council have been anxious to extend the limits of the society, with the view of increasing the benefit to each individual member, and permitting the general advantage resulting from a wider diffusion of scientific knowledge.

But, although many new members have been obtained within the last few months, some of those whose names had been included amongst the founders of the society have not completed their membership, and the members are yet insufficient to enable the council to issue more than two volumes of their works in the first year. They trust, however, it will be satisfactory to the members to find that, with their present limited numbers, the year's income will be nearly sufficient to repay the expenses which have been incurred since 1846, in founding the society, and in publishing the two books issued.

In looking to the prospects of the year 1849, the council think there is reason to expect a considerable accession of members; and, in anticipation of such increase, they have printed a larger number of the volumes published in 1848 than have been required, under the impression that the new members will desire to possess the works of the society from the commencement.

If the increase of the members be commensurate with the expectations which have been formed, the council will be enabled to issue more books in this year, including the 2d and 3d volume of the translation of *Gmelin's Chemistry*, which are already in a forward state of preparation. They are gratified to find that the first volume of this work has been favourably received by the members generally, and they doubt not but this, and the succeeding part of the translation, will fully sustain the high character which the original has for many years borne, as a comprehensive system of chemistry, and a most valuable book of reference. Arrangements will be made for completing this book with as little delay as possible. The selection of a succession of suitable works for publication has repeatedly engaged the attention of the council, who have been desirous, with a due regard to the principles on which the association is founded, to make its publications useful and interesting to the members, while, at the same time, conduce to the advancement of chemical science. Several years will elapse, necessarily, before the publications of Gmelin can be completed; but it is proposed that, during this time, the members shall receive at least one volume a year of some other work. It has been thought that the life and works of Cavendish would form a suitable volume to be issued.

In addition to the two volumes of Gmelin, there will be the *Handbook for the Present Year*, and the counsel have made an arrangement with Dr. Wilson, of Edinburgh, who has undertaken to prepare a sketch of the life of Cavendish, with a full description of his water question, and abstracts of his other papers, with a note or comment, bringing them up to the present state of chemistry.

Amongst other works which have been suggested to form single volumes are *An Abridgment of Persoz's Work on the Art and Theory of Dyeing and Calico Printing*, comprising the most practically important part of the valuable details contained in the original works, together with a series of illustrations, which Dr. John Graham, of Manchester, undertakes to edit. *Rammelsburg's Dictionary of the Chemical Part of Mineralogy, Laussine's Inquiry into the Chemical Phenomena of Vegetation, Rammelsberg on Mineral Analysis, Kopp's History of Chemistry, A Bibliography of Chemistry for the Present Century, Otto's Economic Chemistry, Bischoff's Chemical and Physical Geology.*

The council are convinced that there is a great abundance of matter not otherwise available to the English reader—the acquirement of which, therefore, through the agency of this society will greatly benefit the working chemist; while it must, at the same time, be rendered conducive to the extension of a taste for scientific literature. To ensure the full attainment of these benefits, however, it will be necessary that the limit of the association should be somewhat extended, and, therefore, hope its members will exert themselves individually, and co-operate also with the council, to effect the realisation of the objects originally contemplated on the establishment of the Cavendish Society.

The report was unanimously received.

Dr. Graham was re-elected president, as were also the other officers. It was agreed that Mr. Redwood should be the paid secretary of the association.

In proposing a vote of thanks to Dr. Graham, Dr. LONGSTAFF offered that

gentleman the thanks of the association for his exertions in its foundation, and for the use of his house for its meetings, and those of the council.—The meeting then broke up.

# Proceedings of Public Companies.

*MEETINGS DURING THE ENSUING WEEK.*

MONDAY.....North American Colonial Assurance of Ireland—offices, at One.
TUESDAY.....General Reversionary and Investment Company—offices, at One.
Thames Tunnel Company—Radley's Hotel, Blackfriars, at Two.
London Assurance Society—offices, at Eleven.
WEDNESDAY...British Colonial Bank and Loan Company—offices, at One.
European Gas Company—offices, at Two.
Thames Haven Dock and Railway Company—offices, at One.
THURSDAY.....South-Eastern Railway—Bridge-house Hotel, at One.
Chelsea Water-Works—offices, at One.
New Brunswick and Nova Scotia Land Co.—offices, at Twelve for One.
Mold Railway—offices, at One.
West London Railway—London Tavern, at One.
FRIDAY.....London Gas-Light Company—works, Vauxhall, at Twelve.
SATURDAY.....Economic Life Assurance Company—Radley's Hotel, at Two.

*[The meetings of Mining Companies are inserted among the Mining Intelligence.*

## ALBION PLATE GLASS COMPANY.

The first ordinary general meeting of shareholders was held at the offices, Railway-place, Fenchurch-street, City, on Tuesday, the 27th February.

FREDERICK YOUNG, Esq. (chairman), in the chair.

The advertisement convening the meeting having been read, the CHAIRMAN called on the secretary to read the report of the directors, of which the following is the substance:—That the directors consider it unnecessary to recapitulate the numerous difficulties which have checked the progress of the company up to this time. The special meeting of the 7th June last fully entered into those details. The liberal support then given to the directors encouraged them to take all necessary steps towards completing the company. The Deed of Settlement having been prepared, was duly signed, and the company incorporated on the 5th day of October, 1848. A call of 2*l.* per share was made at the close of the year. The directors now beg to call the attention of the shareholders to the necessity of completing the subscription list within such a brief period as will enable them to avail themselves of the present eligible season for building, and to recommend that a limited time be named for the reception of applications for shares.—The balance-sheet was laid before the meeting.

The CHAIRMAN then called on the manager to read his report, of which the following is a copy:—I beg to state my views on certain facts connected with the present position of plate glass making in this country, and in especial reference to the future prospects of this company. My remarks will briefly embrace five important points:—1. The land.—2. The estimates of buildings and machinery.—3. Foreign competition.—4. Profits realised at present prices.—5. Certain improvements proposed to be adopted.

1. With respect to the land selected, my opinion is, that the terms and arrangements agreed to are such as will greatly facilitate the company's operations in the first instance.

2. On a revision of the estimates by competent parties, it appears certain that the requisite buildings and machinery can be erected and fitted up, considerably within the amount which has been laid before you, and which, it will be remembered, is about half the cost at which similar works have been constructed.

3. So much has been said of foreign competition, that I have deemed it right to submit to your consideration the under-mentioned facts, which are derived from recent estimates for certain specified quantities of plate glass, and the correctness of which may be implicitly relied on. The following are the quotations from the respective tenders;—

| | Foreign houses. | English houses. |
|---|---|---|
| For glazing purposes | £277 19 2 | £190 0 0 |
| For silvering purposes | 119 19 8 | 108 15 10 |

It is well known that these prices of the English manufacturer afford a large profit—averaging about 1s. per foot, from which, and other circumstances, it is the opinion of the most experienced men in the trade, in which I fully coincide, that foreign competition is now virtually excluded from the English market, by reason of the much less cost at which the manufacture can be carried on in Great Britain; but if the present prices realised a gain of only 6d. per foot, that will afford a net profit of at least 10 per cent. on any amount of capital judiciously employed.

5. Independently of these considerations, there are large and comprehensive improvements in active progress, whereby a saving will be effected of about 10 per cent. in the cost of production. These improvements are now secured by letters patent, which will be completed in a few days; and, although desiring to speak with the utmost diffidence of any invention of my own, I feel it my duty to mention the subject—not for individual advantage, but simply with the view of rendering an especial benefit to the interests of this company. Entertaining these opinions, and believing that the company must progress to a satisfactory conclusion, I shall continue to have no claim on its funds, unless the objects be carried out.—HENRY HOWARD.

The CHAIRMAN, in moving the adoption of the report, regretted it was not more satisfactory; but the nature of the times they had gone through—times unparalleled both in the commercial and political world—had crippled their energies and tied their hands. They had worked hard to bring out the company in an efficient manner; but the want of sufficient co-operation, coupled with the causes he had before named, had been the whole reason why they had made no further progress.

Mr. ROTHERY, before adopting the report, would say, he thought it useless to go on with the undertaking, incurring fresh liabilities daily. Here was a company before the public for two years, and yet in an inchoate state.—A SHAREHOLDER: Incorporated, if you please.—Mr. ROTHERY said, his observations did not apply to the merits of the undertaking, which he fully acknowledged, as well as the ability engaged to carry it on; but simply on the score of capital, which, being insufficient, he thought that the company ought to be dissolved.

Mr. SLATER (solicitor) explained, that this meeting had no power to dissolve the company.—Mr. CAUSTON said, that even if it could, it would be an act of suicide to pass such a resolution. Here was a company with merits unquestionable, now, for the first time, ready to go before the public with every chance of success, and now it was endeavoured to nip it in the bud; such an idea was monstrous. The shareholders were unanimous in June, 1848, that the company should be carried out. It was then inchoate, and now that it was incorporated, he trusted they would evince the same determination.—Mr. ROTHERY, finding his view of the company was not responded to, withdrew his proposition.

Mr. MACDONALD said, it was quite true the company had been two years before the public; but every gentleman in the room must be aware that the times were very different now from what they were when this company was first advertised. It was first announced to the public the latter end of Aug., 1847, about three weeks after the first great corn failure; in fact, it was brought out during the crisis, and yet the *bonâ fide* applications were for considerably more than half the amount of capital required for building and carrying on the works. Looking at these facts, with the funds down to 78, it was surprising to him that the company had held its ground so well, or even at all, and which he felt satisfied it would not have done but for its great merits. That was during the crisis; but now, with abundance of capital seeking employment, the funds are at 93. The company was then inchoate. They had now surmounted all the difficulties of complete registration. During the panic, the bullion in the Bank fell to 8,000,000*l.*, now it was 15,000,000*l.* Bankers then refused to discount—the Bank Charter was suspended—the Bank raised its minimum rate of interest to 8 per cent. What was it now?—3; and the bankers were discounting even lower—viz., 2 to 2½. These were facts—stubborn facts—which no gentleman in the room could deny. His confidence in its success was unabated; where one share was applied for before, twenty would be applied for now; and wanting but so few taken up to commence the works, he had no hesitation in stating it as his belief, that if fairly placed before the public, far more than the whole of the required capital would be subscribed by responsible parties, as soon as the prospectus was announced.

Mr. SHARP said, he did not wish to deny the accuracy of the facts brought forward by Mr. Macdonald; but, looking at the length of time the company had been before the public, he thought a certain time should be defined, when, if not in a position to commence the works, the company should be dissolved. He would suggest three months.

Several shareholders then spoke, and Mr. BRADFORD, in a very effective speech, which evinced much practical knowledge on the subject, said, he thought the prospects of the company were more cheering than any speaker seemed to think, with the exception of Mr. Macdonald. He was not disheartened by anything he had heard. He would say, place the company fairly before the public, and its success was certain—a 20 per cent. concern like this was not to be smothered. He quite agreed that it was desirable to limit the time within which the capital should be subscribed. As to Mr. Howard, he was an invaluable acquisition as manager; his qualifications were well known and appreciated.

After some discussion, the CHAIRMAN moved, and Mr. COLLARD seconded, the adoption of the report and balance-sheet, which was unanimously carried.

The CHAIRMAN then proposed that the company's seal be affixed to the register of shareholders, agreeable to the Act of Parliament, which was accordingly done in the presence of the meeting.

Mr. SMITH (a director) briefly stated that his high opinion of the merits of the undertaking remained unchanged, in which the CHAIRMAN also expressed his concurrence.

All the directors retiring at this meeting, pursuant to the provisions of the Deed of Settlement, the following gentlemen were proposed, seconded, and unanimously elected—viz.: Messrs. Frederick Young, Edward Smith, William Macdonald, John Morris, John Hoppe, and John Roberts—the four first-named gentlemen, being present, returned thanks. Messrs. Samuel Sharp and Joseph Causton were then unanimously elected auditors, and returned thanks.

It was then moved, seconded, and resolved unanimously—"That this meeting, believing that a great necessity exists for a further extension of the manufacture of plate glass, determines collectively and individually to use every exertion to bring this undertaking to a speedy and successful issue; and hereby leaves, with every confidence, the complete establishment of the company in the hands of those gentlemen who have been this day elected directors of the company."

The meeting, having passed a vote of thanks to the chairman and directors, for their past services, then broke up.

## BRISTOL AND EXETER RAILWAY.

The 25th half-yearly meeting was held on Thursday, March 1, at the White Lion Hotel Broad-street, Bristol.—JAMES W. BULLER, Esq. (chairman of the company) presided—and the large room was filled by a numerous body of the shareholders.

After the usual preliminary proceedings, the SECRETARY (Mr. Badham), read the report, of which the following is an abstract:—The report stated the amount of rent and share of toll, stated by the Great Western Railway Company as due to this company for the half-year ended on the 13th December, 1848, to be—fixed rent, 35,975*l.* 10s.; tollage on passengers, 11,063*l.* 13s.; tollage on goods, 2809*l.* 11s. 8d.—making a total of 49,871*l.* 14s. 9d.; showing a decrease of passengers, compared with the corresponding half-year of 1847; but there had been an increase of goods, so that the falling off in cash receipts amounted to only 306*l.* 2s. 11d. The suspension of the allowance of interest on both classes of South Devon Railway shares involved the necessity of a temporary reduction of the dividend. The net disposable balance of revenue was 22,732*l.* 5s. 3d., and the sum now entitled to dividend being 1,350,000*l.*, the directors recommend a dividend of 1*l.* 10s. per share, free of income-tax, which would require the sum of 22,500*l.* and leave a small surplus. But if the confident hope entertained by the directors of the South Devon Railway should be realised, that they would be enabled, in the course of the present year to resume, at least in some measure, the payment of interest on the capital invested in that undertaking, they might look forward to an early return to a better dividend, especially if the directors were justified in indulging a sanguine expectation of a large increase in the amount of disposable revenue after the expiration of the lease to the Great Western Company on the 1st of May next. An arrangement had been concluded, under which the Great Western Company would continue for one year certain the management of the traffic at the Bristol station, on equitable terms, all charges being divisible in proportion to the business done. Ample time would be thereby afforded for preparing, with a due regard to economy of construction, all such buildings as might be found indispensable for the convenient transaction of the company's business. The town of Bridgewater being near the centre of the line, and well situated for obtaining a supply of coal, that locality had been selected as the most suitable for coke ovens and workshops, and land had been secured for those purposes. With respect to the third shares, it was proposed to continue the payment of interest on paid-up calls, until both classes of shares might with propriety be put upon the same footing. The dividend warrants for whole shares, and the interest on thirds, as well as that on anticipated calls for the half-year to the 31st December, 1848, would be remitted together, as usual, on the last day of the present month, payable in April. The Clevedon and Tiverton branches had not yielded any direct profit, the expenditure having exceeded the income, but their influence on the traffic of the main line was beneficial. The directors regretted that it was still out of their power to announce to the shareholders any favourable change in the circumstances of the Exeter and Crediton Railway, the London and South-Western and the Taw Vale Companies being unable to work the line themselves, and unwilling to facilitate the Bristol and Exeter Company's doing so. In conformity with the resolution passed on the 1st of September, 1847, a special general meeting would be held immediately after the ordinary business of this day, for the purpose of fully confirming the purchase of the Glastonbury Canal. The statement of receipts and expenditure to the 31st of December, 1848, showed a balance of 382,980*l.* 11s. 11d. as the amount of shares held by the company, convertible securities, and balances in the hands of the bankers.

Various questions were asked, and it was agreed to reduce the number of directors to 12, as vacancies occurred, the remuneration being reduced from 1600*l.* per annum to 1400*l.*, and gradually to 1200*l.* The secretary having stated that the amount unpaid on calls had been reduced to 93,000*l.*, which, in a concern of such magnitude, was, as he had been informed by the directors of many railways, a more favourable state than that of almost any railway in the kingdom. The report was adopted, a dividend of 1*l.* 10s. per share declared; and the other necessary resolutions having been passed unanimously, the meeting broke up.

## SLIGO AND SHANNON RAILWAY COMPANY.

The adjourned half-yearly meeting of this company took place at the offices, in Winchester House, Old Broad-street, on Thursday, the 1st inst.

Capt. W. R. ORMSBY GORE, M.P., took the chair.

The seal of the company having been affixed to the registry of proprietors, Mr. A. GOLS (the secretary) read the following report of the directors:—

REPORT.

Your directors regret to be obliged to express their opinion, that the trade of the west of Ireland has not in any way improved; and such is the depressed condition of the country generally, that they see no ground to hope that there will be any such speedy revival as to warrant them recommending the shareholders to incur further expenses with the view of making the line. It will be seen, by the statement, that the sum now owing by the company is about 3000*l.*, exclusive of the claim of the engineer (Mr. Mackenzie)—the amount of which is to be settled by an engineer mutually chosen, according to the terms of an agreement between the board and that gentleman. The board in June last considered it expedient to make a call of such an amount as would, if generally responded to, have enabled them to meet the liabilities of the company. A call of 2*l.* per share was, consequently, made; this call has, however, been paid by only a few shareholders. Finding this to be the case, and the demands upon the board becoming urgent, the solicitors were instructed to apply to those shareholders who had not paid. This application not proving successful, the directors came to the conclusion, that it would be their best course to consult the wishes of the shareholders, both as to the best means of discharging the debts of the company, and also as to its future proceedings. The board considered it their duty to make a call of 5*l.* per share, in order that transfers of the shares should not be made to unsubstantial persons. The board desire to impress upon the shareholders the necessity of their responding to the call, in order to avoid legal expenses.

Mr. YOUNGHUSBAND asked, if what they had done to-day was really legal, as he doubted whether the shareholders present had paid up their calls; and, if not, could they vote on any question? As to confirming the report, or putting the stamp to the register of shareholders, he thought that either one cet was illegal.

The CHAIRMAN said, it was true that the shareholders present were not in a position to vote on any question, inasmuch as they had not paid their calls; but that circumstance did not in any way effect the legality of the meeting, or authenticating the register, which was required to be done in accordance with the Act of Parliament, and did not depend on any vote of the shareholders.

Mr. YOUNGHUSBAND considered that they only attended now by courtesy. He was at a meeting the other day under similar circumstances, where the chairman informed the proprietors that they could not vote, or take any part in the proceedings of the day; therefore, they could only now advise with the directors, as to any future course that might be recommended.

Mr. G. C. GALT (a director) said, the meeting would not propose any resolutions. There were certain things which must be done, and those only which had been done by the directors under terms of the Act of Parliament.

Mr. Alderman COPELAND observed, that he was in the position of not having paid his call but he intended to pay it (hear, hear); but, at the same time, he should like to be certain as to what amount of claims were to be made on the company. (Hear, hear.) They were bound in honour to meet these demands, and he appealed to the shareholders whether it would not be better to do so, and avoid litigation, and the heavy law charges that must consequently follow. He hoped and trusted the shareholders would adopt that course. As they were there to advise, he would suggest that the directors should send a circular round to the shareholders, naming the 31st March, for the paymeat of the first 2*l.* call; and if they did not heed that, there was no alternative but that the directors should take that course, however painful it might be, which would compel these parties to pay up who had pledged themselves so to do. It was not to be expected that legal gentlemeu would go away without their money. If the shareholders would only reflect, he had no doubt but they would generally respond to the call; and, on the other hand, the claimants, he had uo doubt, looking at the unfortunate position of the shareholders, would easily be induced to relax something of their demands against the company.

Mr. KNIGHT thought the recommendations of the worthy alderman ought to be adopted

The CHAIRMAN said, the board was not in a position at present to render an account of all the liabilities, for it must of necessity remain till the arbitration was closed.

The SECRETARY, in answer to a question, observed, that they knew, to a certain extent, the liabilities when they made the call on the shareholders.

The CHAIRMAN said, of course the greater unanimity there was amongst the shareholders, the quicker their resources would come forward, and the less expense would be incurred.

Mr. YOUNGHUSBAND observed that, as they could not adopt any resolution, but had met to consult together as to the best course to be pursued, he would ask if the board had anything to suggest as to the course to be adopted? (Hear, hear.)

The CHAIRMAN said, the course adopted by the board was to assemble the shareholders, and to invite their co-operation, as far as possible, in the unfortunate position of the company. The directors would do all in their power to obtain the outstanding accounts, and when they possessed them they would call upon the proprietors for such an amount as would discharge them. If a great deal of litigation should unfortunately be required, or any knotty point arise, of course, a greater amount of expenditure would be incurred. He, therefore, hoped that the shareholders would meet the call spontaneously; but, until the board had something definite to go by, they could not declare the whole amount of the liabilities against the company.

Mr. YOUNGHUSBAND said, if the board could enter at once into negotiations with those parties who had claims, he was convinced that the affairs of the company might be liquidated in a short time.

The CHAIRMAN thought there would be no difficulty, if they had the money in their hands, for the directors to say to those gentlemen, will you accept of such a sum of money in full discharge of your demands? But as they had not the money in hand, the directors could not take upon themselves to make that proposition. (Hear, hear.)

Mr. YOUNGHUSBAND said, still if the directors could hold out to the shareholders the likelihood of a smaller demand being made, they would much more readily come forward to pay their arrears. (Hear.)

The CHAIRMAN assured the meeting, that the moment the board got all the accounts together, they would send a circular round to the shareholders, in which they would state the whole of the liabilities that would attach to the company. (Hear, hear.)

Mr. G. C. GALT said, that two meetings had been called, but very few shareholders attended to look into the accounts.

Mr. YOUNGHUSBAND said, it was known that they were liable for 3000*l.*—what would that be per share?—The CHAIRMAN replied, that there were 3080 shares, so that it would be less than 1*l.* per share to make up the 3000*l.*; but beyond that sum, which might probably be reduced, there were the engineer's claims.

A vote of thanks to the chairman, for his urbanity in the chair, having been passed unanimously, the meeting separated.

## SOUTH AUSTRALIAN BANKING COMPANY.

A special meeting of this company was held at the offices, in Old Broad-street, yesterday (Friday), in consequence of the requisition of a number of proprietors, to take into consideration the importance and desirableness of an amalgamation with the Union Bank of Australia, or a disposal of the interest of this company to that concern, on such terms as would be favourable to the shareholders.

EDWARD DIVETT, Esq., M.P., in the chair.

The CHAIRMAN, having read the requisition signed by proprietors of upwerds of 1000 shares, stated that the directors had every wish to give the gentlemen who signed the requisition the opportunity of explaining their views, as to the subject of their requisition, and had, therefore, called the meeting.

The Rev. Mr. TIMSON, after a long speech, in which he compared the relative condition of the two banks, and showed the propriety of an amalgamation with the Union Bank of Australia, or a disposal of this bank to that company, on such favourable terms as might be agreed upon.—Mr. BREWSTER seconded the motion.

A long discussion ensued, in which the low price of the shares of this bank, and the fluctuating character of the dividends made to the shareholders, were allnded to, and in which Mr. Oakes, Mr. Miller, Mr. Field, Mr. Watson, Mr. Smith, Mr. Chalmer, and other gentlemen took part.

Mr. MILLS (a director) defended the condition of this bank against the attacks of the various speakers, and read several reports and accounts, by which he maintained that, instead of paying a dividend of 3½, the shareholdurs of the Land and Bank Companies (for they were generally holders of shares in both companies) had in one shape or other been receiving at the rate of 6 per cent. on their capital. He was happy to say that the capital was still intact, with the exception of the preliminary expenses, which had gradually been diminished by a portion of the annual profits to the sum of about 7000*l.*, and was now most profitably employed in the colony. The question was, whether, under such circumstances, it was worth while throwing themselves into the hands of another company, which was after all not a chartered company, like their own, and without its privileges, merely because its shares were at a higher price in the market, and it had threatened to establish a branch in competition with their own at Adelaide. He considered there was plenty of room for both establishments, and that the growing prosperity of the colony of South Australia ought to induce them to look for better prospects, which he could encourage them in, by stating that their next dividend was, as far as the directors could ascertain at present, to be divided over a profit of about 8000*l.* during the past six months of the current year. He concluded an able speech, by advising the shareholders not to persist in any such a suicidal act as that proposed in the requisition.

It appeared, from the statement of the Rev. Mr. TIMSON, that he had received a proposition from Mr. Cummins, the chairman, and the secretary of the Union Bank of Australia, to take over the assets of this bank on certain terms; but it was, on being read, found to be merely a general disposition on the part of the bank to take up any bank in any Australian colony on the same principle as it had agreed to with the Tamar Bank of Launceston.

Mr. RUSSELL TODD (one of the directors of the Union Bank of Australia) stated, that no terms of agreement had been submitted to the directors of the Union Bank, the letter of Mr. Cummins being merely a statement of the terms upon which the bank would take up any concern suitable for their purpose.

After a long discussion, the CHAIRMAN stated, that he had submitted the question involved in the requisition to the Attorney General and Mr. Warren, and their opinion, was that the charter could not be dispensed with for the purposes intended, unless every shareholder agreed to the same, and that the chairman was not justified in putting the motion for the purpose of the requisitionists.

Mr. FIELD, Mr. SMITH, and others, thought that one thing, at least, was elicited by the course taken by the requisitionists, and that was, that much valuable information had been given to the meeting.

The Rev. Mr. TIMSON felt himself not at all satisfied, and suggested an adjournment of the meeting, in order that a fresh case might be submitted to counsel.

In answer to a proprietor, the CHAIRMAN said, the case and the opinion might be seen at the office by any proprietor. As he was advised by counsel, he could not feel justified in putting the resolution.

Mr. ARGAS made a speech of some length, detailing the great personal and pecuniary sufferings he had undergone for the colony of South Australia, and was much applauded.

The meeting eventually terminated in an amicable manner, and in a way complimentary to the directors, when the shareholders adjourned.

THE TIMBER-PRESERVING COMPANY (PAYNE'S PATENT).—The half-yearly meeting of shareholders took place on Tuesday, at their offices, Whitehall-wharf, Cannon-row, Westminster, when the chairman, after reporting favourably of the company's operations, and stating that a considerable reserve fund had been set aside, declared a dividend at the rate of 8 per cent. per annum, clear of income tax.

SOUTHAMPTON DOCK COMPANY.—The half-yearly general meeting of shareholders was held at the offices of the company, Bishopsgate-street, on Tuesday last—Col. BARLOW in the chair.—Mr. SAINTSBURY (the secretary) read the advertisement convening the meeting, and the directors' report, which stated that, notwithstanding the general depression in trade and commerce, from the disturbed state of the continent during the past year, the business of the company was still progressing advantageously. The receipts on the year ending 31st Dec. last were 19,534*l.* 8s. 7d., while those on the previous year were but 17,333*l.* 14s. 7d.—showing an increase of 2200*l.* 14s. There was a balance on the revenue account, after paying all expenses, of 3203*l.* 1s., enabling the directors to declare a dividend for the half-year of 10s. per share, being at the rate of 2*l.* per cent. per annum. It was stated by the CHAIRMAN, that an arrangement had been made for the employment of a commercial agent for one year—a plan strongly recommended by many influential commercial men. Four directors, who went out of office by rotation, were re-elected, the report adopted, a vote of thanks passed to the chairman, and the meeting separated.

BRITISH EMPIRE MUTUAL LIFE ASSURANCE COMPANY.—The annual general meetings of this society was held on Tuesday last, at Radley's Hotel, New Bridge-street, Blackfriars.—J. Gover, Esq. (chairman of the board of directors) in the chair.—The report presented to the meeting was referred to by the speakers as presenting gratifying proof of the progress of the Mutual Life Assurance, showing that in this, the second year of the company's existence, 1043 proposals had been received, being 510 for ordinary life assurances, and 533 for investment assurances. These had resulted in 404 life policies, and 528 investment policies, giving an average of 77 new policies per month during the past year, while the average for the first year, though very large in comparison with many offices, was only 42 per month. The meeting was addressed by Mr. J. Blackett, the Revs. W. Underwood, of Paddington; R. H. Marten, of Abingdon; and J. W. Fishbourne, of Bow; Mr. J. J. Ridge, Mayor of Gravesend; Mr. R. J. Millar, Mr. J. Mann, and several other gentlemen. The directors and auditors retiring by rotation were unanimously re-elected, and the whole of the proceedings were marked by the utmost cordiality and satisfaction at the successful progress of the institution. Some very striking remarks on the importance of life assurance to the middle and working classes especially were elicited by the statement made of the benefits derived by the family of a member who had recently died, leaving no other provision than that afforded by a policy upon his life; and it was stated, in proof of the extraordinary care exercised in the selection of lives, that, while 1004 life policies have been executed, only two claims have arisen by death since the formation of the society.

CLERICAL, MEDICAL, AND GENERAL ASSURANCE SOCIETY.—The customary general meeting of proprietors took place at the company's house, Great Russell-street, Bloomsbury, on Thursday last.—Dr. J. MOORE in the chair.—The report, which was read, stated that the number of policies issued during the year, ending June 30, was 437, and the sum thereby assured was 253,810*l.* The new premiums received amounted to 8533*l.* The income of the society had been increased from 122,906*l.*, in 1847, to 127,348*l.* in the last year. This increase would appear the more important, when it was stated that the sum 15,005*l.* 15s. had been realised in policies which had been forfeited, lapsed, or purchased during the year, being the largest sum realised under that head in any one year since the commencement of the society.—The report having been adopted, the CHAIRMAN, in reply to a a question from a proprietor, stated that the directors had it in comtemplation to apply to Parliament for a new Charter of Incorporation, but they had not yet taken any steps in the matter.—A long conversation then ensued respecting the propriety of having the present Deed of Settlement printed for circulation among the shareholders, but it was finally resolved, that the consideration of the matter should be left with the directors. The usual business of routine having been gone through, the meeting dissolved.

EQUITY AND LAW LIFE ASSURANCE SOCIETY.—The annual general meeting of proprietors was held on the 22d. Feb., at the offices, Lincoln's Inn-fields, F. N. Rogers, Esq., Q.C., in the chair, at which the directors' report for 1848 was read, showing the amount assured during the year to have been 117,000*l.* at annual premiums, amounting to upwards of 3100*l.*, making the income of the society, from assurances alone, between 12,000*l.* and 13,000*l.* a year. The society has sustained losses by two deaths only, and to the amount of 1800*l.* since its establishment, and has added 16,000*l.* to the guarantee fund.

## IMPROVEMENTS IN THE MANUFACTURE OF WHITE LEAD.

[Specification of patent granted to Thomas Richardson, of Newcastle-on-Tyne, chemist, for improvements in the condensation of metallic fumes, and in the manufacture of white lead.]

This invention comprises two divisions—

1. IMPROVEMENTS IN THE MANUFACTURE OF WHITE LEAD.—Lead of that character, known in commerce as tea lead, is to be submitted in a melted state to a slow current of heated air, in an ordinary red lead furnace, or in the iron pan employed for calcining hard lead, by which means the tin contained therein will be caused to separate from it and float upon the surface, together with a variable quantity of the oxide of lead, which is to be removed with an iron rake. The completion of this part of the process is known by the lead becoming so soft that it may be scratched with the finger, when the remaining materials are to be taken away also. The lead is then to be reduced into crystals by the desilverizing process of Mr. Pattinson, or employed in a granular state. The prepared lead is to be moistened by the application of certain proportions of nitric or acetic acid of commerce, or nitrate or acetate of lead, diluted with water until of equivalent strength, and the moistened mass turned over from time to time, and, when sufficiently treated in this manner, about 20 to 30 cwts. of the same is to be placed in chambers, lined with lead, slate, or stone, the latter being preferred, fitted into a suitable frame, provided with doors, and having spaces between each of such chambers, into which spaces heated air is to be admitted (by means of a pipe furnished with a stop-cock), in order to keep the chambers at a proper temperature. Carbonic acid gas is to be introduced into the chambers with the prepared lead, by means of pipes with stop-cocks; the heat is to be kept up, and steam admitted occasionally. At the expiration of from 10 to 14 days, the materials will be properly treated, when they are to be removed from the apparatus, ground between a pair of stones, and washed in a dolly tub, which separates the metallic lead from the white lead, the former being returned with a fresh supply to the chambers.

2. IMPROVEMENTS IN THE CONDENSATION OF METALLIC FUMES, which consist in introducing steam into the main pipe connecting the furnaces, by means of a small iron pipe situate at a distance of 2 feet or 3 feet beyond the furnace, and in building near the chimney a tower, not less than 20 feet high, divided internally by a partition wall, which reaches nearly to the top thereof; iron bars are placed across, upon which a layer of coke or pieces of broken brick is placed. The fumes ascend up the one compartment, but are intercepted in their passage down the other, by the layer of coke or broken brick, upon which water flows in from the top. If the draught be not sufficient to draw through the coke, it is to be increased by means of steam jets.

The inventor claims, as constituting the patent right in the invention above set forth—first, application of hot air; secondly, the use in the manufacture of white-lead, of nitric or acetic acid, or nitrate or acetate of lead, steam or hot air, and carbonic acid gas; thirdly, the mode of condensing metallic fumes.

*Patent-office and Designs Registry*, 210, *Strand*, *March* 2.

THE INVENTORS' AND PATENTEES' BAZAAR.—It is well known to all conversant with the subject, that, of the number of inventions which crowd the patent lists, it is but a small proportion that ever attains success, in a commercial sense, at all events; and this does not arise so much from any innate defects in the inventions themselves as it does from various circumstances, which hinder the patentees from coming before the public in such a way as to command that success which they deserve. It has been thought that all that could be done to assist an inventor in this respect by any other person than himself, was to provide an exhibition room, where inventions of merit should be exposed to public view, and this has been carried out in a very efficient manner by the Polytechnic Institution. But although that institution has well carried out all that it proposed to effect, still it has not forwarded what the inventive body stands so much in need of—pecuniary support from the public. This desideratum is now to be supplied; the proprietor of the well-known Baker-street Bazaar having determined to open an *exposition* of inventions, to which the public will be *admitted gratuitously*, and at which it will be his object to *effect sales*, as well as exhibit the inventions. For this accommodation, exhibitors will have to pay a certain rent, and a commission on the sales effected. We think this is a very feasible project, and likely to conduce to the benefit of patentees and inventors.

# Mining Correspondence.

## BRITISH MINES.

**ANTIMONY AND SILVER-LEAD.**—Mr. C. S. Richardson (Feb. 26) reports—In pursuance of the instructions received from the gentlemen assembled at the offices of this company, I proceeded to Cornwall, and have made a partial inspection of this mine, and will send you a further report next week. I congratulate you upon the possession of one of the finest lead mines in the north of Cornwall. By a little well-arranged management, this mine may make a fortune to the adventurers. I have this day surveyed the under-ground workings, and to-morrow shall, after taking the true bearing of the Wheal Sarah lodes, 20 fms. deep in shat mine, trace it into your sett by the instrument, and lay it down to its true bearing on the map.

**ASHBURTON UNITED.**—Capt. J. Kernick (Feb. 27) reports—Our new stamps have gone to work, and they give great satisfaction. I have nothing to report particularly about the pitches in the various parts of the mine since my last; I am connecting these on the north lode, and have set to rise from the 45 to the 35 fm. level, for the purposes of ventilation, and to enable us to open more ground for pitches.

**AYLSBOROUGH.**—Captain J. Spargo (Feb. 28) reports—We have intersected the north lode by the shaft, which is of a splendid appearance—in fact, a rich lode indeed; in driving east, on the same lode, some good work. In the rise in the back of the 40 fm. level, on the same lode, good work. In driving on the south lode, it is large, and spotted with tin. We have sold our parcel of tin, which brought 52l. per ton.

**BARRISTOWN.**—Captain T. Angove (Feb. 23) reports—In the 16 fm. level we have been a little delayed this week in driving the end east, for want of more ventilation, but we have now holed the winze behind this end to the adit level, which will remedy it; the end looks well, producing about 1½ ton of lead per fm.; and, as we drive east, the ore is getting more towards the bottom of the end; the back behind the end also looks well. In the adit end east, although we have not cut the lode, we have the best looking ground in it we have seen for several fathoms—in fact, I think it is looking better than before we cut the slide; the pitches in the back of the adit level are at present rather poor. The best piece of ore ground we have in the bottom of the adit level we are not at present able to work, on account of the water.

**BEDFORD UNITED.**—Capt. James Phillips (Feb. 28) reports—At Wheal Marquis, the 100 fm. level south is progressing favourably. In the 90 fm. level east the lode, so far as it has been cut into, is 7½ ft. wide, producing good stones of ore, and very promising. The 80 fm. level east is suspended for the present; we continue to drive by the side of the lode in the 70 fm. level; the pitches are still yielding good returns.

**CALLINGTON.**—Capt. J. T. Phillips (February 26) reports—In the north engine-shaft the ground is rather hard for sinking. The cross-cut in the 112 is also hard. In the 100 fm. level north the lode is small, producing silver-lead ores—the ground is favourable; in the 100 fm. level south the lode is unproductive. In the 90 fm. level south we are opening tribute ground; in the 90 fm. level east we have just cut through a small cross-course—the lode is composed of peach and mundic. In the 70 fm. level east the lode looks a little more kindly, giving out a little more water; the stopes in the bottom of this level will produce on an average 4 tons of copper ores per fm. In the 90 fm. level west the lode will produce from 2 to 3 tons of copper ores per fm. At Kelly Bray no improvement has taken place. In the 125 fm. level, south of Johnson's engine-shaft, the lode is about 10 in. wide, rather poor; in the north end we are opening tribute ground. In the 112 fm. level south the lode is 10 in. wide, intermixed with silver-lead ores; in the north end the lode is producing silver-lead ores. In the 100 fm. level north we are opening tribute ground. In the 90 fm. level south the lode is unproductive. In the 70 fm. level south we have a small branch of good saving work—silver-lead ores. In the 40 fm. level south the lode is producing silver-lead ores, and looking more kindly.

**CARADON WHEAL HOOPER.**—Capt. John Seymour (Feb. 23) reports—The lode in the winze, sinking under the bottom of the 50 fm. level, is improving daily, and we are now breaking some very good saving work. The north branches are falling into the lode regularly; and I have no doubt, by the time we get to our 56 fm. level, this will be an exceedingly productive lode. In driving west, on Dawe's lode, in the 56 fm. level, there is a very great improvement—the lode becoming more compact and settled as we proceed towards the junction of the two channels of granite; it is composed of peach, prian, spar, mundic, with good portions of copper ore—promising a good lode ahead. In driving south, towards Hooper's and Pearce's lodes, the end is in a congenial stratum of killas ground, with many small veins of copper interspersed throughout—letting out much water, and getting very near Hooper's lode. I am quite assured that, should we cut ore in this ground, it cannot but be a productive lode. About 6 fms. further driving from Hooper's lode will bring us to Pearce's lode, which afforded such flattering indications at surface, and I feel satisfied will not deceive us at a deeper level.

**CWM ERFIN.**—Capts. A. Francis and S. Nicholls (Feb. 24) report—Our 20 fm. level east contains a small quantity of ore; the stope behind this end is looking well. The rise over the 20 fm. level west will produce about 6 cwts. of ore to the fm. All the stopes over the 10 fm. level are producing about the same quantity of ore to the fathom as when last reported. We have connected our present wheel at the engine-shaft, so that, in future, our old wheel will have nothing to do but to crush.

**DEAN PRIOR AND BUCKFASTLEIGH.**—Capt. H. Choake (Feb. 28) reports—In the 20 fm. level west no lode has been taken down since my last report—driven 1 fm. 2 ft. 5 in.; present price for driving, 3l. 5s. per fm. In taking down the lode in the 40 fm. level, east of the cross-cut, I find it in the present end poor, although composed of a quantity of mundic. The branch of ore that I stated we had discovered, 5 in. big, and laid open, we have just driven through, about 10 ft. in length, in the bottom of the level—this appears as if the top of a shoot of ore; and, having such a large champion lode, shows the strength of the lode in going down—driven, in the past month, 2 fms. 3 ft. 6 in.; present price for driving, 3l. 10s. per fm.; in the end, west of this level, the lode has made what we may term a splice, which has caused a change of a very peculiar nature; and we have driven through a few feet of slidy or broken ground—the lode being again formed, and of a very promising character, altogether about 5 ft. wide: 18 in. of which is composed of spar, prian, and flookan; the other part to the south being composed of capel and spar, and spotted with yellow and horse flesh ore; we are now driving on the north part of the lode; the killas by the side to the north is much fairer and of a lighter colour than 12 fms. further east, which are good indications—driven, in the past month, 6 fms. 2 in.; present price for driving, 3l. 5s. per fm.

**DEVON AND COURTENAY.**—Captain N. Seccombe (Feb. 37) reports—The lode in the end driving west, in the 50 fm. level, is at present small; the ground is favourable for driving. The lode in the end driving east, in the 50 fm. level, on the south lode, is 4 ft. wide, composed principally of capels, mixed with mundic and spar, and spotted with ore, but not worth saving. There is no lode yet discovered in the end driving north on the cross-course in the 40 fm. level.

**EAST CROWNDALE.**—S. Paull (24th Feb.) reports—Diamond's shaft is now about 5 fms. below the 17 fm. level; the ground is a close killas, intermixed with spar, and tolerably favourable for sinking. The adit level, on the course of Thomas's lode, I am glad to say, holds on good; the part we are now carrying is about 5 ft. wide, and yields upwards of 45l. worth of tin per fm. The stopes in the back of this level are to-day suspended, and the men put to sink Thomas's shaft, which is set at 7l. per fm. Tippett's stopes in the back of the adit level, are looking very well; the ground is composed of peach, prian, spar, and tin, and produces about 50l. per fm. We, on Saturday, put our new stamps to work, which answered admirably.

**EAST TAMAR CONSOLS.**—Capt. James Wolferstan (Feb. 26) reports—The lode in the shaft is full 5 feet wide, composed of horn-spar and can, with a branch of lead in the eastern end, which is saving work, and likely to improve. I regret to say, that the men have not made that progress which might have been expected; they have not been diligent; they have now a fair price, and if they do not work as they ought this month, I shall get another pare. The lode in the north end, in the 70 fm. level, has improved greatly during the past month; for the last 3 fms. it has yielded from 6 cwts. to 8 cwts. of lead per fm.; and, from appearances, it will continue to improve; in the south end, in the same level, the lode is yielding saving work, and leaving good tribute ground, but it is still tight and hard, and I expect it will continue to be so for a few feet further. In the north end, in the 60 fm. level, the lode is 3 feet wide, and worth from 7 cwts. to 8 cwts. of lead per fathom; the south end, in the same level, is suspended, and the men placed to sink a winze in the bottom of it, so as to ventilate the 70 fm. level Church-lane shaft is cleared about 7 fms. under the deep adit, or 50 fms. from surface. We expect to reach the 11 fm. level in the course of eight or nine days. The pitches are looking quite as well as for some time past, and will yield rather more ore, I believe, this month. We have also set two new pitches, the produce of which will, I trust, bring our next sampling up to 65, or, perhaps, to 70 tons. Our machinery is all in good order, and we have not had any accident during the month.

**HOLMBUSH.**—Capt. W. Lean (Feb. 27) reports—The ground in the great cross-course, in the 132 fm. level, west of the diagonal shaft, is without alteration. The ground in the 120 fm. level, south-east of Hitchens's shaft, is moderate; the lode in the 120 fm. level south is 4 ft. wide, composed of quartz and stones of lead, saving work; no lode taken down in the pitch in the bottom of this level, west of the cross-course, since last reported on. The lode in the 110 fm. level south is 3½ ft. wide, composed of can, mixed throughout with lead, saving work, and leaving tribute ground in the back and bottom of the level. We have at last intersected the great cross-course in the 100 fm. level, east on the flap-jack lode, and got about 4 ft. into it; it is perfectly dry, as we expected to find it, and at present the ground is favourable for exploring, which we hope will continue.

**KIRKCUDBRIGHTSHIRE.**—The agent (Feb. 24) reports—The lode in the 50 end, east of Stewart's, is 3 ft. wide, composed of jack and sulphur, sprinkled with lead. In the 40 end, west of Keith's, lode 5 ft. wide, strong combs of jack and spar, with a branch of lead, worth 5 cwts. to the fm. The ground in the cross-cut, in the 30 east, is a little more favourable. The lode in the 20 end east is still small and unproductive. The shaftmen are putting in dam, &c., preparing to sink. We have shipped another cargo of lead this week for the Holywell market.

**LLWYN MALEES.**—Capt. H. Francis (Feb. 27) reports—The mine continues to make very valuable improvements as we proceed in depth. Oliver's winze is down 5 fms. below the 14 fm. level, and is still in an excellent lode; when we have fixed our pumps in the London shaft, which may be in a week or ten days time, I hope to see her rapidly sinking through the same valuable lode. In the 14 fm. level, driving west, we have often excellent stones of ore, with all the indications of being the back of a considerable deposit below, which our London shaft will, I hope, verify.

**MENDIP HILLS.**—Capt. F. C. Harpur (Feb. 26) reports—The lode in the rise above the 20 fm. level continues about 5 ft. wide, composed of flookan, spar, and iron, intermixed with small spots of lead in places—ground favourable for exploring. In the slag department we have, during the latter part of the past week, been obliged to stop the dressing pare, in order to clear some stuff taken from different parts of Ubley slag ground—consequently, our returns of slags for the week have not been so much as usual, although we extracted a few tons of good slags, which, from its appearance, is quite equal in quality to that we last smelted. In the slag ground, the beds of stuff continue about 15 ft. thick, producing some good work for slags, and a quantity of slimes.

**SOUTH TAMAR CONSOLS.**—The manager (February 27) reports—At the survey, held on Friday last, the following bargains were set:—To clear the shaft, and make all complete to the 100 fm. level, by six men, at 6l. 10s. per fm.; the shaft is now complete to the 90 fm. level, and the men have resumed sinking; in the course of a day or two, they will be sufficiently under the level to permit of our commencing to clear it. At present, I cannot give you any account of the lode in this level, as we can only get in about 6 fms. north and 3 fms. south of the shaft. To drive south, in the 80 fm. level, 5 fms. stent, by four men, at 30s. per fm.; the lode is about 2½ ft. wide, composed of a tender finor-spar, with a leader of rich ore, that will yield from 4 to 5 cwts. of lead per fm. To drive south in the 70 fm. level, 2 fms. stent, by four men, at 4l. 10s.; the lode in this end is about 14 in. wide, composed of a close can, with lead throughout—the whole being good saving work; there is a slight improvement in the ground, and we expect a favourable change in a short time. To clear the 40 fm. level, 5 fms. stent, by two men, at 7s. 6d. per fm.; this level is clearing for 20 fms. from the shaft. To clear the 20 fm. level, 3 fms. stent, by two men, at 10s. per fm.; this level is cleared 5 fms. from the cross-cut south; there is no lode standing in either of these two levels, as far as we have yet seen. The engine is working very well, and keeps the water at five strokes per minute. We are quite prepared to house the whim engine directly it arrives; and Mr. West writes me, that he will ship it in a few days.

**SOUTH WHEAL TRELAWNY.**—Capt. W. Lean (Feb. 24) reports—The ground in the 30 fathom level cross-cut west is favourable for exploring, but there is no string, branch, or lode yet to be seen; in driving north, in this level, the lode forms two smooth walls, 3½ ft. apart, and on each there is a branch, 6 in. wide, composed of barytes, spar, mundic, and spots of lead; the stratification is becoming more congenial for mineral as we proceed northward, and the lode has a more kindly appearance; the quantity of water is just as usual.

**TAMAR SILVER-LEAD.**—Captain J. Sprague (February 26) reports—In the 190 end, south of the shaft, the lode is 1 ft. wide, composed of horn-spar, with spots of ore. The lode in the 175 end is greatly improved, which is now 18 in. wide, good work. In the 160 end the lode is 6 in. wide, producing saving work, but of a coarse quality. The 145 end is in slidy ground, and unproductive. In the 135 end the lode is 18 in. wide, and passing through profitable ground. At North Tamar, in cross-cutting in the 80 fm. level, we have intersected several small branches of ore, but expect the main part of the lode is still further west. In the 70 end north we are still driving on the west part of the lode, which is chiefly composed of capel and can, with small strings of ore; in the same level, on the eastern part of the lode, we are opening good tributs ground. The 60 end north is suspended for the present, and the men put to cut through the eastern lode in the same level, where we expect to open ground that will pay on tribute. We hope to sample on Saturday, the 3d March, 85 tons of rich silver-lead ores.

**TINCROFT.**—Capt. Peter Floyd (Feb. 26) reports—At Palmer's shaft, on East Pool lode, the 90 fm. level west is at present poor. In the 80 fm. level west, the lode is worth 8l. per fm. for copper. At north Tincroft, the lode in the 100 fm. level east is worth 8l. per fm. for copper. In the 160 fm. level west, the lode is worth 6 per fm. for copper. In the 90 fm. level east, the lode is worth 9l. per fm. for copper; in the 90 fm. level west, the lode is worth 25l. per fm. for copper. In the 80 fm. level, east of Willoughby's shaft, the lode is worth 9l. per fm. for tin. In the winze sinking below this level, the lode is worth 9l. per fm. for tin and copper. In the winze sinking west of engine-shaft, below this level, the lode is worth 10l. per fm. for copper. On Highburrow lode, in the 152 fm. level, east of engine-shaft, the lode is worth 7l. per fm. for tin. In the 142 fm. level, east of Martin's east shaft, the lode is worth 12l. per fm. for tin. The stopes in the back of this level, east of the shaft, are worth 18l. per fm. for tin; the stopes west, in the back of this level, are worth 12l. per fm. for tin. The 132 fm. level, east of Martin's east shaft, is worth 20l. per fm. for tin; the lode in the west end, same level, is worth 16l. per fm. for tin; the stopes in the back of this level, east and west of this shaft, are worth 16l. per fm. for tin. In a winze sinking below the 120 fm. level, east of Martin's east shaft, the lode is worth 18l. per fm. for tin. At Blight's shaft, the shaftmen are engaged in cutting the plat at the 90 fm. level; the lode is worth 8l. per fm. for copper. Chapple's shaft, sinking below the 72 fm. level, on the south lode, is worth 7l. per fm. for tin and copper. On Chappel's lode, in the 100 fm. level, west of Downright shaft, the lode is worth 6l. per fm. for copper. In the 90 fm. level west, the lode is worth 20l. per fm. for tin; in the winze sinking below this level, the lode is worth 9l. per fm. for copper. In the winze sinking below the 80 fms. level, the lode is worth 10l. per fm. for tin. We have commenced driving a cross-cut, south of Martin's east shaft, in the 142 fm. level, to cut Dunkin's and the south lode.

**TIN VALE.**—Capt. J. Hosking (Feb. 26) reports—We have been driving west on the middle lode, and have excavated 5 fms. of ground, and raised some tin. You must recollect your mine is not as yet worked below the adit level. I think the parcel of tin recently sold from this mine far exceeds in price any raised in the eastern district of Cornwall for many years past, and let me urge on you the necessity of prosecuting the working of this mine below the adit level without further delay.

**TRELEIGH CONSOLS.**—Capt. William Symons (Feb. 28) reports—Garden's shaft, below the 113 fm. level, is sinking in the country; these men have been cutting cistern plat, and altering the lifts. In the 113 fm. level, west of ditto, the lode is 4 ft. wide—rather more promising, and producing stones of ore. In the 100, west of ditto, the lode is 1 ft. wide, but little ore. The men have been in the back of the 80 a part of the month; the 80 fm. level, west of ditto, to cut a north part of the lode, which split off 15 fms. east; we calculate from 6 to 9 ft. more to cut it. In the 60, west of ditto, the lode is 3 ft. wide, much improved in appearance, but little ore. In the 20, east of Wheal Parent lode, the lode is 20 in. wide; it contains spar, mundic, and stones of ore; in the 20, west of ditto, the lode is 2 ft. wide, very much improved in size since we commenced driving; it was only 6 in. in the commencement, but now a kindly lode; in the winze below the adit the lode is 4 ft. wide—very regular, with occasional stones of ore; the 20 cross-cut, south of Wheal Parent, is suspended for the present.

**WEST WHEAL JEWEL.**—Captain R. Johns (Feb. 26) reports—In the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, lode looking more promising than when last taken down, producing stones of ore. In the 57 fm. level, west of Williams's cross-course, on the same lode, lode not taken down in the past week. In the 47 fm. level, west of Williams's cross-course, on the same lode, the lode is 2 ft. wide, worth 7l. per fm. In the deep adit, west of Hodges's cross-course, on the same lode, we have cut the lode in the past week, in the western side of Williams's cross-course, and it is looking more promising for ore than it was in the eastern side of the cross-course. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 2 ft. wide, producing stones of tin. In the deep adit, west of Quarry shaft, on the same lode, the lode has not been taken down in the past week. In the stopes, in the 12 fm. level, east of Pryor's winze, on Tolcarne tin lode, the lode is worth 14l. per fm.; in the stopes, west of this winze, on the same lode, the lode is worth 18l. per fm.; the stopes in the bottom of this level, east of Tregoning's shaft, are worth 15l. per fm.; the stopes east of Tregoning's winze, in the bottom of this level, are worth 22l. per fm.; these stopes are all working on tribute.

**WHEAL BENNY.**—Capt. John Tabb (Feb. 28) reports—We have cut the Ford lode in the 30 fm. level; it is small and poor, but opening larger westward, towards the point were it is large and promising in the 7 fm. level, and above. I would recommend driving a few fathoms in that direction. One of the miners has now called to say that they have cut the lode in the south cross-cut—of course, as it is only just touched, we cannot say anything of its character. I shall, however, go underground there immediately, and as soon as possible report its character, prospects, &c.

**WHEAL SARAH.**—Capt. J. Spargo (Feb. 28) reports—I hope, by the latter part of next week, we shall set the south end, in the 30 fm. level to drive, and we expect to have about 10 fms. to drive, before set on tribute, at this level; by that time we shall get the winze through from the 20, where we hope to set two pitches. The other parts of the mine are looking well,

**WHEAL TRELAWNY.**—Capt. John Bryant (Feb. 27) reports—We have set Phillips's to sink from the 72 to the 82 fm. level; I see no alteration in the ground since my last report. The lode in the 72 end, north of this shaft, is 3 ft. wide, and worth 6l. per fm.; the south end of this level is worth 8l. per fathom; no lode has been taken down in the back of this level since my last. The lode in the 62 end, north of this shaft, is 5 feet wide, composed of spar, can, and lead, worth 20l. per fm.; in consequence of a run in the back of the south level there has not been anything done in the end since last reported on; however, we expect to resume it to-morrow; the stopes in the back of this level are improved; the lode in the winze sinking under this level is 2 feet wide, and worth 8l. per fm. There is no change as yet in the ground in sinking Treiawny's shaft under the 52; the lode in the 52 end, north of this shaft, is worth 7l. per fm.; the stopes in the back of this level, and in the 42, are producing a fair quantity of ore. We are again come to water in Smith's shaft, and are obliged to suspend it for the present; the 30 end, north of this shaft, is progressing satisfactorily, and producing stones of ore; we have a little improvement in the back of this level. The parcel of ore sold yesterday, computed 96 tons, was purchased by Messrs Robert Michell and Son, at 16l. 15s. per ton.

**WHEAL VINCENT.**—Capt. J. Spargo (Feb. 28) reports—We have cut soft ground in the end driving on the south lode—we have set it at 2l. 5s. per fm.; the lode is getting larger, with good stones of tin. The water is gone back from the old workings, and I expect we shall be able to sink, stope, and drive on the bunch of tin, at one and the same time. Our other work is getting on as fast as the weather will permit, it being rather stormy for some days past; however, we hope to soon complete the lobby.

**WHIDDEN.**—Capt. J. Kernick (Feb. 27) reports—The cross cut from our lower shallow adit is entering a very congenial strata, and several cross veins of mundic and spar crystallized, have been intersected dipping towards the large lode, which we have fully discovered on the surface, at the higher shallow adit.

## FOREIGN MINES.

**ALTEN MINES.**—Mining report from the 8th to the 22d of January:—

*Raipas.*—An improvement has taken place in the 10 fm. stope, on Labouchere's lode, where we are again raising a small quantity of good prilly purple ore. The 20 fm. workings continue to develope themselves favourably, but the extremely hard ground in the sink to the north-west, prevents us from making such good returns from this part as we had anticipated. Monk's shaft is making favourable progress towards the 30 fm. level, and the ground still continuing to hold out the same promising appearances. The 20 fm. cross-cut is fast approaching that part of the mine where we expect to intersect Labouchere's lode, at this level, and the continuance of the gossan vein, with purple ore and greens, leads us to form a sanguine opinion of its value. On the whole, the several workings, during the last fortnight, have shown evident signs of improvement, although the returns will not immediately experience that increase which we could have desired.

*United Mines.*—The workings in Ward's lode have latterly been rather more subject to fluctuation; one of the stopes has deteriorated, but the other still continues productive: four extra hands will be employed in exploring another part of the same lode. At Woodfall's the tributers have been successful, and a good branch of ore has been discovered in the back of the lode, from which we hope to obtain some good returns. Hoskin's lode continues favourable, but the produce, although of a good quality, is rather small.

*Old Mine.*—The tributers' returns continue good, and the prospects are still encouraging. The new cross-cut is orey, but not rich; it is now worked on tutwork, with a tribute on the ore produced.

*Rope's.*—No further improvement is observable; the ground is hard, and the progress made in exploring the lode is consequently slow, and the returns of ore are rather less.

*Mancur's.*—The lodes are small, but promising, and the tributers are making rather more satisfactory returns.

*Michell's.*—The several workings continue favourable, and we now hope to be able to return the ore to the smelting-house. We expect the returns will be found of the usual good quality.

*Carl Johan's.*—The tribute produce is rather better, but, from the hard nature of the ground, it is still less than we expected.

*Gwenvig.*—Two men only are employed at this place; the prospects continue promising, and the quality of the produce is good.

*Raipas, Jan. 22.*—Capt. Samuel Monk reports—In the whims, west of Monk's shaft, the lode continues much the same as when last reported—viz., containing a good course of ore, with the ground of such a character as to keep the men in this bargain almost constantly at the smithy; so that, until we get a change of ground, our progress here cannot be otherwise than slow. In Monk's shaft we have got down about 10 feet below the 20 fm. workings—the ground still continuing speedy and favourable for sinking; we have also, within the past week, sunk through a small vein of purple ore in this place, with the general accompaniment of gossan and rich greens; but as this appears to be striking off to the north-west, we are compelled to let it rest for the present, so as not to interrupt the sinking of the shaft, which it is our intention to get down to the 30 as soon as possible. In the roof of the stope, in the 20 fm. workings, there is, if any thing, a slight improvement—the ore at present being of a more compact nature than what it has hitherto been found to exist in this place. With respect to the northern cross-cut, driving towards Labouchere's, in the 20 fm. workings, the ground still continues to hold out the same inducement as when last reported; we have still about 2 ft. of ground yet to spend before arriving at the destined point necessary to meet with Labouchere's lode, and which I hope to be able to accomplish by the close of this week. In the stopes, in the 10 fm. workings, the lode has, within the last two or three days, improved considerably, it being at present about 6 ft. big, containing rich purple ores, and wearing altogether a most encouraging aspect; it is to be hoped it will continue so, as it will tend greatly to enhance the produce at Raipas, which, for some time past, has been rather of a despanding nature. In the other parts of the mine there is no alteration whatever.

**IMPERIAL BRAZILIAN MINES.**—*Bananal, Dec.* 13.—At this place our cross-cuts westward, in the adit level, both from Wray's and Goldsmid's shafts, have intersected a few veins of quartz and mica, but none of them have afforded signs of gold. At Walker's we are repairing a few weak parts of the shaft, and are still preparing to fix the large plunger-lift. At Thomas's most of our time has been occupied in cutting down unproductive stone near the vein; but, I am happy to say, a decided improvement has taken place in the bottom, where the vein, though small, is productive. We have opened a communication from the surface to the 7 fm. level, at Gibson's shaft, but it is yet a small one, and probably 10 days more will, at least, be necessary to open the shaft to its proper size. Our shallow adit level, west from Hollingsworth's shaft, is still penetrating the new jacotinga. We have intersected several veins, but one only shows traces of gold, and these but scanty ones. At the 7 fm. level south we hope, during the ensuing 10 days, to get below the productive spot in the adit; we advance regularly towards it, but the ground is soft, and our progress has been slow.

*Gold Report.*

| | | | | |
|---|---|---|---|---|
| From Dec. 5 to 13—From Bananal | Lbs. | 5 | 8 | 9 0 |
| " " From Gongo | | 2 | 8 | 4 0 |
| Together | Lbs. | 9 | 4 | 13 0 |
| Total from the 1st July, 1849—Gongo | Lbs. | 79 | 11 | 11 0 |
| " " " Bananal | | 164 | 5 | 6 0 |
| Making together | Lbs. | 244 | 4 | 17 0 |

*Dec.* 23.—At this place our cross-cut westward from Wray's shaft, in the adit level, advances with tolerable speed, but it has yet intersected nothing auriferous. The cross-cut, in the same level, in a like direction from Goldsmid's shaft, proceeds slowly, for the ground, though not unpromising, is very hard. At Walker's shaft the needful repairs and preparations have been made, and we are fixing the 20-inch plunger-lift. As it has not been always possible to keep Walker's engine at work whilst we have been removing the pumps, the water has sometimes risen and flowed through the 7 fm. level into Thomas's shaft—thus somewhat obstructing our operations there; from this cause, and because the gold vein is at present in contact with a vein of quartz, which seems to impoverish it, our produce from the mine, during the past 10 days, has been but trifling. At Hollingsworth's shaft, the cross-cut westward, at the shallow adit, still penetrates jacotinga, but it has yielded no gold, and its aspect is not very flattering. We are preparing to sink below the adit level, on the vein which gave us gold in new ground, beyond the former owners' workings, and our 7 fm. level having got beneath that spot, we wait only to see the result of sinking a short distance below the adit, in order to decide on ulterior proceedings. No gold has been seen in the vein at the 7 fm. level, but some very good samples have been found for a short distance in it. A shallow drift is in progress for draining the rain water from the upper part of Brightman's shaft. The stable at Valeria is in order, and the stableman's house waits only a few dry days for entire completion. We have had some very heavy rain during the past 10 days, but it has caused no injury worth mentioning. Since the captain's report was written, we have commenced driving eastward, in the adit level, on a cross vein, between Thomas's and Walker's shafts. I am happy to say, that not only has it yielded good samples, but the first day's work gave a lump of gold, twice the size of a French bean—an improvement (trifling as it yet is) very acceptable under our present unflattering aspect.

*Gold Report.*

| | | | | |
|---|---|---|---|---|
| From 13th to 22d Dec.—from Bananal | Lbs. | 5 | 5 | 8 0 |
| " " from Gongo | | 3 | 8 | 2 0 |
| Together | Lbs. | 9 | 1 | 10 0 |
| Total from 1st July, 1848—Gongo | Lbs. | 83 | 7 | 12 0 |
| " " " Bananal | | 169 | 10 | 14 0 |
| Making altogether | Lbs. | 253 | 6 | 7 0 |

**NATIONAL BRAZILIAN MINES.**—*Cuiaba, Dec.* 16.—Our mine is now in a most promising state, having a good length of stopes at present open, from which rather favourable returns are being obtained. The lode cut into from the bottom of the winze, which is about 12 fathoms deeper than our present stopes, being equally good, or rather more productive (from the indications given by the samples taken from it) than the ground we are now excavating upon.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cocaes produce—from 3d to 13th Dec. | Lbs. | 4 | 1 | 6 | 33 | | | |
| " " from 13th to 23d ditto | | 4 | 5 | 5 | 56— | 8 | 7 | 4 12 |
| Cuiaba produce—from 26th Nov. to 6th Dec. | | 4 | 4 | 2 | 65 | | | |
| " " from 6th to 16th Dec. | | 5 | 5 | 3 | 52 | | | |
| " " from 17th to 26th ditto | | 2 | 4 | 4 | 43—21 | 5 | 7 | 59 |

**ST. JOHN DEL REY MINES.**—*Morro Velho, Dec.* 8, 1848.—Produce for November, 23,407 ozts.=224·87 lbs. Troy, from 6176 tons of ore, yielding 3·78 ozts. per ton.—In my last I expressed a fear that the produce of the third portion of the month would not equal that of either of the other two—but in this I have been agreeably disappointed, the reported yieldings having been as follows:—

| | | |
|---|---|---|
| 1st 10 days | Ozs. | 7680 |
| 2d 10 days | | 7958 |
| 3d 10 days | | 7769—23,407 lbs. |

*Stamps Working* during the month, average 93·92.

*The Supply of Stone* has been hardly sufficient for our requirement. You will see by the reduction report that we have been obliged to bring in 134 tons from the refuse heap. Picking has, of course, been out of the question.

| | | | |
|---|---|---|---|
| *Cost for November*—Rs. 43,419 623, at 2s¾ | | | £4251 10 1 |
| Produce | Ozs. | 23,407 | |
| Less duties, 7 per cent. | | 1,638 | |
| Net ozts. | | 21,869, at 7s. 7d. | 8254 3 7 |
| Profit | | | £4002 13 6 |

The lode at the west Quebra Panella is making a turn towards the north; it is still a little disordered, and of a more quartzose nature, but it is enlarging: it is now 8 ft. wide, and the north wall not visible.

*Dec.* 18.—Gold extracted to date, 8249 ozts., from 431·97 cubic feet of sand (being the produce of 11 days' stamping), equal to 19·09 ozts. per cubic foot.

*Stamps Working* 17 days, average 93·5 heads.

*The Supply of Stone* from the mine had sensibly diminished during some days, obliging us to draw rather freely from the refuse heap. It is now, however, increasing, and as we have obtained a seasonable, though not very large, addition of hired blacks, and are, besides, boring (though as yet to a very small extent) on overtime, I trust we shall now be enabled to keep up a tolerable supply.

Gold extracted to date, 15075 ozts., from 833·19 cubic feet of sand (being the produce of 21 days' stamping),=18·09 ozts. per cubic foot.

*Stamps Working* 28 days, average 93·94 heads.

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[From the *Plymouth Journal.*]

**Wheal Franco.**—The end in the 47 fm. level is still in the cross-course. The 62 fm. level continues gradually to improve.

**Wheal Anderton.**—The lode in the 90 fm. level has been cut, and a good course of tin met with.

**Wheal Ash.**—Mundic continues nearly to cover the hollow of the shaft. A branch of soft spar, with some lead, is coming in from the north side of the lode, and is increasing in size. This is looked on as a favourable indication.

**Plymouth Wheal Yeoland.**—In sinking the diagonal shaft large stones of ore have been raised under the slide. The lode over the 34 fm. level is expected to be cut very shortly. The new south lode has continued to improve gradually since it took its regular north underlay.

**Plymouth Wheal Yeoland East.**—The lode has been cut through at the adit level, it is 16 ft. wide, and very promising in appearance; all the leader part of the lode, above the adit, has been carried away by the ancients, which shows that there must have been much tin in the backs. A meeting is to be held on Friday to decide as to sinking the engine-shaft immediately. This lode is well worthy a trial, and from the character of the heaps of waste stuff raised, and now at surface, tin may be expected at the next level.

**Birch Tor and Vitifer Mines.**—Birch Tor lode: The lode in Prideaux shaft has considerably improved in sinking, being worth about 18l. per fm.; the ground is favourable. On this lode a rise is being made from the back of the deep adit for ventilation. Little tin has been raised here; but a fine run of tin has gone down from the shallow adit, which will shortly be met with in the deep adit—from this much is expected.—North lode: The ground in the cross-cut is a little harder; this is, in the opinion of Capts. Edwards and Dunstan, a very important part of the mine, as this adit will lay open many thousands of fathoms of the lode under very large workings of the ancients.—The Vitifer lode: Dunstan's shaft is 18 fms. from surface; the lode in this shaft is worth about 16l. per fm., the ground easy. The great surface workings are to the west, and the silk beds to the east of this shaft, therefore improvements are expected as the level is extended in each direction.

## ACCIDENTS.

*Explosion of Fire-Damp in a Coal-Pit, and Seven Persons Killed.*—On Monday, an explosion of fire-damp took place at the Bird-in-Hand Colliery, Eccleston, belonging to Messrs. Bromilow and Co. The accident it is supposed, occurred through the imprudence of one of the colliers taking the top of his lamp off. There were nine men and boys in that part of the mine where the explosion took place, and seven were suffocated, along with a pony. The dead bodies were brought out of the pit on Tuesday night. Their names are Robert Johnson, William Porter, Isaac Ball, William Palmer, William Platt, John Garvey, and Peter Garvey, and two other men, who were much burned and are not expected to recover.—*Liverpool Mercury.*

*Denbigh-Hall, Colliery, Dudley.*—William Morrell was killed by between 3 and 4 cwts. of coal falling upon him, while engaged in loading a skip down a pit at this colliery.

*Capon-Field, Bilston.*—John Davenport was killed, almost instantaneously, whilst at work in one of Messrs. Bagnall's coal-pits, by about 3 or 4 tons of coal falling upon him. Another miner, who was at work within 4 ft. of deceased, stated, at the inquest, that the roof was propped, and he thought it quite safe, or he should not have worked there himself. He believed that the accident arose from a slip of the coal from its being faulty.—*Wolverhampton Chronicle.*

*Merthyr.*—G. Watts was killed by a fall of rubbish in one of the Cyfarthfa levels.

*Fatal Boiler Explosion.*—On Wednesday morning last, the boiler of the engine, belonging to the stuff manufactory of Messrs. Ackroyd and Sons, of Thornton Bank, Bradford, burst, just as the engine was being set to work, after the breakfast time. The accident proved fatal to a woman 40 years of age, and severely injured six or seven other persons, besides doing much injury to the property. The boiler is but little injured, and the cause of the catastrophe is unknown.

*Another Fatal Boiler Explosion.*—On Monday last, at the Allerton Bywater Colliery of Messrs. Bower and Co., near Pontefract, the boiler exploded with awful violence. The young man who attended the engine, Ralph Brown was killed on the spot, the engine-house was entirely destroyed, and the boiler was divided into two parts, one of which was carried into a field 250 yards distant. No reason can be given for the explosion.

## NEW ROAD LEVEL COLLIERY.

Sir,—Mr. Court's unqualified statement, in your last Number, requires a brief notice. The vein of coal in question was tried by my late father, at his own work, and at his sole private expense, for coking: he pronounced it to be worthless for that purpose, and he also stated that the coal could not be profitably worked. The Messrs. Mushet, therefore, did not, in the first instance, work the coal; and a reference to Messrs. Gollop and Elder, of Lydney, will at once prove that they never purchased any of the coal from the Messrs. Mushet—no such firm having been in existence in May last. It is but fair to state, that, as far as I am concerned, the alleged claim can only be decided by an appeal to the Court of Chancery.—Robert Mushet: *Coleford, Feb.* 26.

## COPIAPO MINING COMPANY.

The half-yearly meeting of shareholders was held at their offices, Austin-friars, on Wednesday, the 28th February.

CHARLES HEATON ELLIS, Esq., in the chair.

The advertisement calling the meeting having been read, the half-yearly report was read by Mr. ELLIS. REPORT.

The directors have great satisfaction in being able to report to the shareholders some improvement in the state of their affairs since their last meeting. Since the month of September last, three vessels have arrived in England on account of the company, bringing together 1400 tons of copper ore, 810 tons of which have been sold, averaging 27¼ per cent. of copper, and realising 18*l.* 10s. per ton: 300 tons of the *Jenny Jones* cargo have been sold to Mr. Smith, of London, and the remaining 290 tons will be sold at Swansea on the 1st proximo. Notwithstanding the repeal of the import duty on foreign copper ore (the present charge being only 1s. per ton), and the superior quality of the cargoes which have arrived, yet, owing to the very low price of copper, the ores have left but a small profit; better results, however, may be expected from the next sales, the standard having of late improved. The *Catherine Jenkins*, with 562 tons of copper ore, sailed from Copiapo on the 16th Nov. last, and may be expected in the course of next month; her cargo chiefly consists of the washed halvans from Malpaso, which, it is expected, will produce at least 30 per cent. of copper. The directors have chartered two other vessels, both of which have sailed for their destination, and will load about 900 tons of ore. Owing to the great change that has since taken place in the rate of freights at Valparaiso, they have thought it expedient, for the present, not to engage any other vessel here to follow the above. The *Asoca* arrived at Swansea on the 25th Nov., bringing the 30 tons of silver ore remaining at the Pampa Larga Mine, which are not yet sold. The proceeds of their ores will finally close the company's connection with this mine. The quantity of copper ore lying in the valley of Copiapo, on the 1st Dec. last (the date of the last advices), was about 1700 tons, after loading the *Catherine Jenkins*. From the great excitement that has prevailed in the province of Copiapo, owing to the recent discoveries of silver mines, there has been great difficulty in obtaining a sufficient number of native labourers for working the copper mines, which has caused a decrease in the quantity of ores raised at the company's mines for some months past. The general prospects at Checo and San Pedro were, however, favourable, and the ore was reported as being very rich. The new mines of Esperanza and San Juan were progressing favourably, but, owing to the scarcity of native labourers, most of the exploring works had been suspended of late. Capt. Waters, however, had fortunately succeeded in engaging, on reasonable terms, at Copiapo, five additional Cornish miners for the service of the company.

The crops at the estates were all reported to be looking well, with a probability of an abundant harvest of wheat and barley. The pastures were also good, and promised a sufficient supply of food for the winter months. The estates of Malpaso and the Chacra were greatly improved, and are reported to be in a thriving condition.

The stock of mules belonging to the company, on the 1st December last, amounted to about 430 effective head, the manager having deemed it expedient to dispose of all the old and useless animals, intending to replace them from fresh troops, which were shortly expected in the province, and which would give him sufficient carriage power.

On the 29th October, Capt. Waters wrote to the directors, informing them that two new silver *minerals* had been discovered, not far distant from the company's copper mines of Puquios and San Pedro, and that having purchased some shares in the same, namely 2¼ barras in the mineral of Garin, and 3 barras in that of Tres Puntas; he offered the same to the company, expressing his opinion that they were likely to lead to favourable results. A barra is the 24th part of a mine, and the price of each barra was $1000. Capt. Waters subsequently informed the directors, that he obtained 2¼ barras in other mines, situated in the same mineral, for the sum of $8000, with the understanding that $2000 more should be paid when $4000 profit shall have been realised beyond the purchase money. The directors entertaining a high opinion of Capt. Waters's judgment, and understanding from him that the ores were very rich, that they can be raised at a moderate expense, and there is every facility for reducing them into plata pina, at the amalgamation works, Copiapo, have considered it for the advantage of the company to make these purchases.

The further advices, which may be expected by the next or ensuing packet, are looked forward to with much interest; and extracts of any important dispatches will be made for the information of the shareholders, to be seen in the office. It was then moved, that the report be received and entered upon the minutes, seconded, and carried unanimously.—The meeting passed a vote of thanks to the late director (Mr. Masterman), and also the present directors.

## CONDURROW MINING COMPANY.

A meeting of adventurers was held at the mine on Tuesday, the 20th Feb., when a statement of accounts was presented, showing—By tin balances, 39*l.*; ores sold 7th Dec., 1848, 1464*l.* 0s. 11d.; tin sold 19th Feb., 1849, 541*l.* 6s. 5d. = 2044*l.* 7s. 4d.—To labour cost for Dec. and Jan., 1032*l.* 16s. 8d.; merchants' bills, 401*l.* 19s. 10d.—E. W. W. Pendarves, Esq., dues of ores sold 7th Dec., 1848; difference in amount credited, in former account, for tin, and that realised, and dues on tin sold 23d Dec., 3d Jan., and 19th Feb., 120*l.* 4s. 4d.; balance due purser end of Nov., 289*l.* 9s. 1d.—leaving balance in purser's hands end of January, 199*l.* 17s. 5d.

The accounts having been examined, were allowed, and the following report, from Capt. N. Vivian, read to the meeting:—

*Condurrow, Feb.* 10.—I am happy to inform you, that we have at last arrived at the point which we have long contended for—*i. e.*, out of debt, and with a balance in the purser's hands. The low price of tin and copper has prevented our arriving at this long ago. The prospects of the mine were never so promising as now. The ground in the sump, which is 4 fms. under the 70 fm. level, has changed from red to blue; the lode therein, which is 2 ft. wide, is good for tin, with stones of grey, black, and crystallised copper ore; an improvement here may be expected ere the shaft reaches the depth of 80 fms. The back of the 70, east of the sump, for 8 fms. in length, is 8 to 9 ft. wide, and good for tin; and the end, which is 20 fms. from the shaft, will yield 7 tons of good ore per fm.—lode 4 ft. wide. This ore commences 12 fms. west of the course of ore in the 60, and is settled into a hard course of yellow ore, with much fluor-spar. The 70 west is yielding some very rich ore, of which about 9 tons have been raised since last sampling. The other parts of the mine are as productive as they were at our last account. Hope's shaft is holed to the 50 fm. level, and we shall soon now drive two or three levels under the old workings into the eastern mine. We have been carrying on heavy tutwork—four shafts sinking together, employing 6 parties of shaftmen; one of the shafts (Hope's) was sunk in 3 lifts.

## GADAIR MINING COMPANY.

A meeting of adventurers was held at the offices, 25, Fleet-street, on Monday, Feb. 26. G. W. BLANCH, Esq., in the chair.

The notice convening the meeting having been read, the CHAIRMAN stated that the meeting had been adjourned until that day for the purpose of receiving a communication from Mr. Molyneaux, who had been authorised to dispose of the unappropriated shares, in number 2600, at the sum of 1800*l.*

Mr. MOLYNEAUX, being in attendance, laid before the meeting a letter he had received, expressive of the readiness to pay such amount upon the several debts owing upon the mine being discharged, the 1800*l.* being for prosecuting its working.—A warm and rather angry discussion ensued, as to whether the bargain was at an end, inasmuch that he (Mr. Molyneaux) was not prepared with the money at the moment to take up the unappropriated shares.

Mr. JAMES TRUSCOTT stated, that he was ready to take up the shares upon the terms proposed, and indeed would give an addition of 90*l.* to the sum named; and, as an earnest of his intent to carry out such measure, would place in the hands of the company 100*l.* as part payment, which he would forfeit should not the matter be carried out.

Mr. ENGLISH submitted that an offer having been made to Mr. Molyneaux of the shares for a given sum, and he having expressed his readiness to pay the required amount, subject alone to the several liabilities of the mine being discharged, he considered that he had fully performed his part, and that it could not be expected any one would place money into the hands of the company for an express purpose while debts were owing: he accordingly moved, that time be given for Mr. Molyneaux to pay the amount; and that, in the interim, the several liabilities should be discharged.—The question having been put to the meeting, was negatived.—The CHAIRMAN, with a desire that matters might be amicably settled, suggested, that the meeting should adjourn till Monday, the 5th inst., when, should not Mr. Molyneaux be prepared to pay the money, the offer of Mr. Truscott should be taken into consideration; this course meeting with the approval of the meeting, an adjournment accordingly took place.

## HAWKMOOR MINING COMPANY.

A meeting of adventurers was held at the mine, on Monday last, the 26th Feb., at which the following report, from Capt. John Richards, was read:—

*Feb.* 26.—I have much pleasure in presenting you with this my first report on the Hawkmoor Mines, and trust you will excuse my entering somewhat into detail on the various matters of interest connected with the subject. The sett is situate on the Cornish side of the Tamar, surrounded by some of the most productive and promising mines in the district, being bounded on the north and north-east by the Devon Great Consols and Clitter's sett, east by the Bedford United Mines, and south and west by the Gunnis Lake Mine sett, and is held for a term of 21 years, at 1-15th dues. The length of the sett, on the course of the lodes, from east to west, is about three-fourths of a mile, and about half a mile from north to south. There are five lodes running through the sett, including the lode we are operating on—viz., Wheal Tavistock lode, about 80 fms. north of Wheal Marquis lode; Wheal Marquis south lode, about 35 fms. south, underlying north, which, it is supposed, will form a junction; Wheal Marquis lode, at about 45 fms. deep; the south lode, about 20 fms. south, and the Delor's Kitchen lode, about 90 fms. south.

The ancient miners having extensively worked the backs of these lodes at the surface, there cannot be a doubt that they present alike features of promise and inducement for further trial. There are several cross-courses traversing the sett—at all times a favourable feature in mines, but particularly so in this district, from the well-known fact, that the bulk of the ore discovered is in the vicinity of the cross-courses. The lode to which our operations have been confined is the Wheal Marquis lode, now successfully working by the Bedford United Mining Company. Since commencing operations, in June last, the "Old Men's" engine-shaft has been sunk, cased, and divided, to the 20 fm. level. Two winzes were commenced in the 10 fm. level west of the shaft and one east, which we were soon compelled to suspend, owing to the water becoming too quick; the lode in these winzes proved very productive, averaging 2 ft. wide, and worth 2 tons of ore per fm.; under these circumstances, it was deemed advisable (the shaft then being 16 fms. deep) to cross-cut to the lode, with a view to unwater the winzes, and so enable us to resume sinking them; in this desired object we were, however, disappointed, and immediately resumed sinking the engine-shaft until it reached the 20. The lode at the 16 fm. level proved to be about 2½ ft. wide, and would yield, on an average, 2½ tons of ore per fathom. From the 20 fm. level a cross-cut has been extended south for about 2 fms., and the lode intersected, which, I am happy to say, we found very much improved, both in respect of produce and general appearance, being about 2½ ft. wide, and yielding 6 tons of ore per fathom. As these levels have been extended east and west, the lode has been found to improve. From the three winzes, which were sunk about 2 fms. each, and the 16 fm. level, in which 1 fm. was driven, we sampled and sold in Jan. 14 tons 1 cwt. 3 qrs. copper ores, which realised 61*l.* 12s. 2d. We are now preparing another parcel of copper ores, which we hope to make 35 tons in about a fortnight from this time; this will include about 16 tons of ore raised on tribute in the back of the 10 fm. level, between Hitchins's and the old men's shaft. The ore ground now standing in the back of the 20 fm. level may be said to be 50 fms. long; the whole of which will be available, and work at a moderate tribute. In addition to these operations, we also sunk a pit on the lode, about 0 fms. east of our present workings, in which it was found to maintain its character and size, producing splendid gossan, spar, and ore—good saving work. Owing to the quickness of the water, after sinking about 9 ft. from surface, it was suspended. Looking at the great improvement in the 20 fm. level, and the highly promising nature of the lode in the pit alluded to, there can be no doubt that the mine will be a remunerative and lasting concern. I beg to submit stones of gossan and ore from the lode in the Strode pit, as also from the 20 fm. level, for your inspection.

Having now briefly given you a general view of the sett and our underground operations, I shall proceed to state what has been done on the surface. A 34-feet water-wheel, 12-feet breast, drawing machine, rods, bobs, &c., together with a smith's and carpenter's shops, dressing sheds, and other necessary buildings, have been erected; leats cleared up, by which a never-failing and abundant supply of water for all and every purpose is obtained; dressing floors made, and, indeed, all the surface operations may be said to be complete. There is another feature to which I would call your attention—viz., that the company have obtained a grant of Dimson sett, on the same terms as the Hawkmoor sett is held; this sett lays immediately between Gunnislake Old Mine and the western workings. The company who last had possession of Gunnislake sett shoded this sett, and cut all the main lodes of Gunnislake, which were then pronounced to be equally promising as in Gunnislake Old Mine, and alike worthy of further and more extensive prosecution. Taking the whole circumstances into consideration, and the large extent of ore ground laid open at so small an outlay, there can be no doubt that this mine bids fair to rival the richest mines in the district, and the shareholders have great reason for congratulating themselves in having secured this valuable mining property.

## WHEAL TREMAYNE MINING COMPANY.

A meeting of adventurers was held at the office, on Friday, the 23rd of Feb., when a statement of accounts was produced, showing—Labour cost and merchants' bills for November, 1164*l.* 1s. 1d.; ditto for December, 1153*l.* 10s. 7d. = 2317*l.* 11 8d. By sales of copper ore, December 14 and Jan. 11, 743*l.* 19s. 1d.; black tin, 1575*l.* 14s. 6d. (less 1-40th lords' dues, 57*l.* 19s. 10d.) = 2261*l.* 13s. 9d.; carriage of tin, 16*l.* 9s. 3d.; West Wheal Providence water carriage, 24*l.*; debts received, 2*l.* 5s. 11d. = 2304*l.* 8s. 11d., showing a balance against the mine of 13*l.* 2s. 9d.; add balance from last account 168*l.* 7s. 11d. = 181*l.* 10s. 8d. The accounts were passed, and the agents were directed not to interest themselves in the carriage of tin, copper ore, or materials belonging to the mine, after the termination of existing contracts. A stock account of the tin on the mine to the end of January, as taken by Mr. William Oats, was submitted, showing a quantity in hand of 62 tons 10 cwts. 2 qrs. 6 lbs., from whence there appears to have been subsequently sold 12 tons 4 cwts. 1 qr. 21 lbs., leaving on the mine 50 tons 6 cwts. 13 lbs. The agents were instructed to return as much available stock, with as much speed as possible, and that if an additional calciner be requisite, Mr. Michell be desired to procure the same. The following report, from Capts. W. Blewitt and John Phillips was read to the meeting:—

*Feb.* 21.—In the 70 fm. level cross-cut, driving south, to intersect the south lode (the intersection of which will be about 20 fms. west of Madern's shaft), the ground is much more favourable for driving than we expected to find it; we commenced driving this level about three weeks ago, in which time it is driven from 18 to 20 fms., so if the ground continues much the same, we expect to see the lode at this level in the early part of April next—the level will come in 24 fms. below the 50 fm. level. The lode in the 50 fm. level, west of Madern's shaft, is 2 ft. wide, producing moderate work for tin; the lode in the 50 fm. level, east of said shaft, is 2 ft. wide, with some tin in it, opening tribute ground. The lode in the 40 fm. level, east of aforesaid shaft, is 1½ ft. wide, poor; in the 40 fm. level, west of said shaft, the lode is small, and poor at present. The lode in the 30 fm. level, west of Wheal Margaret shaft, is 1 ft. wide, with a little copper ore in it; we have about 50 fms. more to drive this level to intersect a large cauntor lode, which lode we have seen the back of for a great length, the appearance of which leads us to think we shall find it a productive lode—we form a very high opinion of the ground to the west of Wheal Margaret, we think it will prove a productive piece of ground; in the 30 fm. level, driving east of Wheal Margaret shaft, the lode is 6 in. wide, with good stones of copper ore in it. This is a lode we lately discovered; it intersected the south lode about the aforesaid shaft in going east, it takes off to the south of what we call the south lode—it is a kindly looking lode. We have commenced sinking Wheal Margaret shaft under the 30 fm. level; the said shaft is about 6 ft. to the south of the lode at this level, and at the adit level 9 ft., so the underlay is but little. We do not intend any time to be lost in sinking the shaft; we shall sink it so far as we think it convenient, without working the flat-rods—we expect everything connected with the rods will be quite ready to work when wanted. The lode in the 70 fm. level, east of Alexander's shaft, is 1½ ft. wide, with some rich grey copper in it. The lode in the 53 fm. level, west of new shaft, is 10 in. wide, with some very rich stones of tin in it, opening moderate tribute ground—this level has a very kindly appearance, and the ground favourable for driving. The lode in the 45 fm. level, west of new shaft, is 1 ft. wide, producing some very rich work for tin, opening low tribute ground. The two levels before mentioned we shall drive with all speed, in order to make pitches, and by so doing we expect to increase our tin samplings, which have fallen off in consequence of the ground proving so unfavourable in the 53 fm. level—in three months we shall see a great deal more of this mine. The south lode, about Madern's, in the 70 fm. level, the 40 fm. level at Wheal Margaret, also prove a great piece of ground to the west of the same, and the tin ground west of new shaft. It is proved we have a large stock of tin on the mine, and the present price of it very good, and also a favourable time of the year approaching for returning it, so we shall with all speed prepare to do so.

## NEW REAL DEL MONTE MINING COMPANY.

A meeting of gentlemen who had been holders in the Real del Monte Mining Company, and who felt interested in securing and working the property under a new proprietary, who starting free from all liability, and with the dear bought experience of the old company, would, doubtless, be enabled to work the mines with profitable results, was advertised for Tuesday last, at the George and Vulture Tavern, Cornhill. About 30 gentlemen accordingly attended at the appointed time, and after a few observations from Mr. Wray, one of the late directors, as to the inexpediency of either of the latter taking the chair on the occasion, as being trustees for the body of shareholders, their taking any part in the formation of the new company would place them in the invidious position of buyers and sellers, a chairman was attempted to be found among the parties present, but without effect. It was suggested that Mr. Phillips, the secretary to the late company, should officiate on the occasion; but this was overruled, he being too closely connected with the old company, and as no chairman could be obtained, the proceedings resolved themselves merely into a lengthened and somewhat desultory conversation, as nothing official could be done. It appeared that the meeting was called by Mr. Phillips, at the suggestion of two or three gentlemen, who were anxious that the property should not be sacrificed, the directors in no way having anything officially to do with the new company, although it was stated they would probably all take their *quota* of shares. Mr. Phillips stated that these gentlemen had desired the meeting, that they might be enabled to ascertain the general feeling as to the desirability of forming a new company, and the probable number that would join them. He read a letter received from Mr. Buchan, expressing his opinion on the probable results of working the mines by a new company, unfettered by heavy liabilities, and at reduced costs, from the abandonment of the deep drainage, which was encouraging. He recommended either solely working on the ores of low ley, of which there were vast quantities attainable, and extending the barrel amalgamation, for which the capital named would be sufficient; or also to continue to drive the Aviadero level, or deep adit, through the Moran mine and the adjoining country, to complete which in 4 years would require 60,000*l.* (Mr. Phillips and Mr. John Taylor, jun., explained, however, that this expense might be divided over a much longer period); in addition to the ores raised, there would be trials of great interest, from which discoveries might be expected, and he anticipated the best results from the operations being continued. Col. Colquhoun considered the dissolution of the company a hasty and injudicious step; he believed that now the expenses had been reduced the mine was working to a profit, and the liabilities in Mexico might have been reduced. He knew parties in Mexico who were willing to come forward and have purchased the ores raised, and thus have eased the company of risk, but the moment they heard of the dissolution, they drew back as having no ostensible body to deal with; he wished to see the resuscitation of the company, as he had great faith in the wealth yet to be obtained from the property. The Santa Ynez mine alone, which was never any part of the Regla family's property, but was a separate holding, was producing $10,000 or $11,000 a month. Mr. Heath considered the sum suggested to be paid for the property, 40,000*l.*, too large, and he was sure they would never raise the other 60,000*l.* for working capital, making 100,000*l.*; he considered they should offer the property for the amount of the liabilities, and then they might raise perhaps 30,000*l.* more to go on with; the bond holders had refused to advance a shilling to save the company from ruin, while the shareholders had, since the bonds were issued, advanced upwards of 400,000*l.* Mr. John Taylor, jun., said it was of no utility looking back to their misfortunes, the mines and stores were the property of the shareholders, with a debt due to the bondholders of 130,000*l.* and interest, making about 500,000*l.*; there were liabilities in Mexico amounting to 20,000*l.*, which, whatever sum the property sold for, must first be paid, and the residue go to the bondholders. He had an estimate of all the property, which Mr. Buchan calculated at 80,000*l.*, and he did not think the directors, as trustees, would be justified in selling it at the small amount named by Mr. Heath. He said he had never received a farthing as manager, nor did he ever intend to do so; he should, however, be happy to see the company resuscitated, and the property saved; and if they thought he could be of service, he would assist Mr. Phillips to the best of his ability. There was no time to lose, for if Mr. Buchan had not means placed at his disposal for liquidating the debts very shortly, the whole would be sold at a great sacrifice. The steps he should recommend were that a few gentlemen, who felt well inclined to the concern, should form a committee among themselves, ascertain who it was probable would join them, wait upon the directors, ascertain their minimum price, and then consider of it, and make an offer as might be decided on; this appeared to him the only means the directors had of getting rid of the property; the new company would commence free and unfettered, and he had no doubt their operations would be productive of success. Mr. Phillips stated, that the course he had intended to propose for the adoption of the meeting was, that they should appoint a committee to investigate the grounds upon which the proposition to form a new company was based, and to take such steps thereupon as they might deem expedient. Mr. Tucker suggested that the directors should name a sum which they would take. He approved of the committee as suggested, or would join any other gentleman in considering the matter, ascertain what number of gentlemen would join them, and endeavour to place themselves in a position to make an offer for the property. Although nothing definitive was done, Mr. Heath, Mr. Tucker, Col. Colquhoun, and several other gentlemen, seemed anxious to consider the subject among themselves, and enable Mr. Phillips to call another meeting at an early day, when something in a tangible shape can be offered; and it is probable, that though as a meeting it was a failure, this two hours conversation may be productive of good results, and another meeting be more successful.

CRADDOCK MOOR.—At a meeting of adventurers, held at Liskeard, Feb. 15, the accounts were examined and passed, showing—Balance of last account, 12*l.* 12s. 11d.; calls, 53*l.* = 65*l.* 12s. 11d.—By labour cost, Nov. and Dec., 43*l.* 19s. 11d.; materials, 12*l.* 2s. 1d.—leaving balance in favour of adventurers, 9*l.* 10s. 11d.—A call of 5s. per share was made, and the following report read:—Since our last meeting we have extended on the cross-course about 5 fms., intending to cut Vivian's lode before opening on the level, but found that our progress was considerably retarded for want of ventilation, chiefly on account of the smoke, which remained for a long time in the level; and we thought it best to sink a shaft, which we have completed, and the men have resumed driving as before—so we hope to get on with greater speed. I expect we have about 6 or 7 fms. to Vivian's lode. The cross-course is still regular and well defined; at present it is rather hard—set at 4*l.* 10s. per fm.

EAST WHEAL AGAR.—At a meeting of adventurers, held at Liskeard, on Feb. 16th, the accounts were examined and passed, showing—Balance at last account, 81*l.* 1s. 1d.; calls, 128*l.* = 209*l.* 1s. 1d.—By labour cost, Nov. and Dec., 113*l.* 3s. 7d.; merchants' bills, 49*l.* 2s. 5d.: leaving balance in favour of adventurers, 46*l.* 15s. 1d.—A call of 1*l.* per share was made, and the report read:—In the 40 fm. level, going south, we have cut an immense stream of water; I should say we are near a large lode, because this water appears to be so very strong; in this level we have driven 3 fms. on the new lode, and find it small and poor; Cole's lode, in the said level, is looking very promising; two men, in the last three weeks, have broken from 3 to 4 tons of good quality ore. In the 20 fm. level we have intersected the lode, and it looks promising. Here I would recommend to drive east and west; and, judging from the appearance in the back of the 40 at this point, I feel very sanguine that we shall soon meet with ore. A second suggestion—A winze might be sunk from this level to the 40 fm. level. This would not only open a great deal of orey ground; but would be very advantageous for the ventilation of the south part of the mine. As summer is approaching, I would call your call your attention to the propriety of commencing with one of two needful operations—either to sink a new shaft in the southern part of the sett, or to sink the existing shaft 20 fms. deeper. I have thus briefly adverted to what I consider the more prominent parts of our operations.

EAST WHEAL ROSE.—The adventurers held their usual two-monthly meeting on Tuesday, the 28th Feb., when the following statement of accounts were presented. From private letters, we learn, that the mine is considerably improved; but this information does not accompany the statement—indeed, the agent's report presented at the meeting is never furnished the absent shareholders. The accounts showed—Balance of last account, 2706*l.* 0s. 8d.; proceeds of Oxnam's lead ore, 1555*l.* 8s.; ditto North Wheal Rose, 354*l.* 5s. 6d.; do. East Wheal Rose, 788*l.* 9s. 7d.; Cargill adventurers' supplies, 836*l.* 7s. 1d.; ditto three-fourths of Nov. and Dec. profit, 854*l.* 12s. 10d.; materials sold, 6*l.* 0s. 3d.; short credit on ore, 10*l.* 12s. 4d. = 13,707*l.* 16s. 3d.—By labour cost, November, 2236*l.* 10s.; ditto December, 2224*l.* 12s. 6d.; merchants' bills 1696*l.* 12s. 6d.; coal, 700*l.*; income tax, 250*l.*; lords' dues, 688*l.* 6s. 6d.; land tax, 32*l.* 12s. 2d.; dividend, 25*l.* per share, 8300*l.*: leaving balance to credit, next account, 2727*l.* 7s. 4s.

GONAMENA.—At a meeting of adventurers held at Liskeard, on Feb. 15, the accounts were examined and passed, showing—Balance from last account, 26*l.* 6s. 3d.; ores sold, 142*l.* 18s. 4d.; calls, 128*l.* = 297*l.* 4s. 7d. By labour cost, Nov. and Dec. 193*l.* 13s. 1d. materials, 42*l.* 17s. 5d., lords' dues, 8*l.* 14s. 6d., leaving a balance in hand, of 51*l.* 19s. 7d. The following report was read:—Taylor's lode, in the 17 fm. level east, driving from West Caradon, is in Gonamena sett; the lode is 15 in. wide, composed of spar, peach, and spots of ore. If Taylor's lode underlies, as is supposed, 3 ft. in a fathom, it will be seen in the 38 fm. level, in about 4 or 5 fms. more driving: and the lode will there be in Gonamena sett, both sides the cross-course. Gilpin's lode, in the 60, is not yet in Gonamena. The distance from the boundary of West Caradon to Gonamena engine-shaft, through the adit, is 95 fms., and our 55 cross cut is driven south, towards West Caradon, 46 fms.; so that this 55 end is now about 49 fms. from the boundary, or 45 from the West Caradon 38 end, which it will nearly meet, if continued, 55 fms. under Gonamena adit, being about equivalent to 38 under West Caradon adit.

PROVIDENCE MINES.—At a meeting of adventurers, on Wednesday week, a dividend of 10*l.* per share was declared, amounting, in the aggregate, to 1120*l.*

ST. IVES CONSOLS.—At a meeting of adventurers, held at the mine, the accounts for October, November, and December, were produced, showing—By tin sold, 3639*l.* 0s. 8d.—Labour cost, &c., 2268*l.* 19s. 4d.; coals, 192*l.* 10s. 5d.; bills, 693*l.* 6s. 7d. = 3154*l.* 16s. 4d.—showing profit of 484*l.* 4s. 4d.; add balance of account Sept. last, 286*l.* 18s. 2d. = 771*l.* 2s. 6d.—By dividend now made of 5*l.* per share, 470*l.*: leaves balance now in hand, 301*l.* 2s. 6d.

WEST CARADON.—At a meeting of adventurers held at Liskeard, on the 15th Feb., the accounts were examined and passed, showing—Ores sold, Dec., 254 tons 19 cwts. 2 qrs., at 7*l.* 4s. 6d. per ton, 1841*l.* 14s. 4d.; carriage paid by purchasers, 60*l.* 11d.; ditto Jan., 343 tons 9 cwts., at 6*l.* 10s. 7d., 2247*l.* 10s. 11d.; carriage, 81*l.* 11s. 3d.; less lord's dues (262*l.* 2s. 11d.) = 3969*l.* 4s. 7d.; materials sold, 12*l.* 16s. 3d. = 3982*l.* 0s. 10d.—By labour cost, Nov. and December, 2795*l.* 4s. 4d.: merchants' bills, 839*l.* 1s. 3d.; sundries, 24*l.* 9s. 8d.: leaving balance of profit, 323*l.* 5s. 7d., to which add balance last account, 1498*l.* 6s. 7d. = 1816*l.* 12s. 2d., from which deduct dividend paid in January, 640*l.*: leaves balance in hand, 1176*l.* 12s. 2d. A dividend of 50s. per share was declared, payable on the 1st March.

WHEAL BAL.—A meeting of adventurers took place on Tuesday last, when Mr. John Thomas White (the purser) produced the accounts for the five months ending Dec. last, from which it appeared that the expenditure in wages and merchants' bills amounted to 176*l.* 8s. 0½d.; balance due to purser last account 28*l.* 0s. 6d. = 204*l.* 8s. 6½d.—By tin sold, 234*l.* 8s.: leaving balance in favour of adventurers, 29*l.* 19s. 6d.; with 70*l.* worth of tin ready for sale.

WHEAL MARGARET.—A meeting of adventurers was held at the mine, on Monday, Feb. 27, when the accounts were produced for Oct., Nov., and Dec., showing—Tin sold, 4647*l.* 17s. 9d.; sundries, 5*l.* = 4652*l.* 17s. 9d.—Labour cost, carriage, &c., 1937*l.* 15s.; coals, 140*l.* 10s. 4d.; merchants' bills, &c., 570*l.* 7s.: dues, 188*l.* 0s. 3d.; new machinery, 112*l.* 10s. = 2949*l.* 2s. 7d.—showing profit of 1703*l.* 15s. 2d.; add balance from Sept. last, 227*l.* 0s. 10d. = 1930*l.* 16s.—By dividend made this day, of 15*l.* per share, 1680*l.*: leaves balance now in hand, 250*l.* 16s.

WHEAL MARY CONSOLS AND WHEAL SISTERS.—These setts are now united, under the title of Wheal Mary Consols. At a meeting of adventurers, held at Liskeard, on the 16th Feb., the accounts were examined and passed, showing—Labour cost for November and December, 1134*l.* 6s. 8d.; merchants's bills, 806*l.* 19s. 5d.; sundries, 5*l.* 9s. 9d.; interest, 62*l.* 2s. = 1508*l.* 17s. 10d.—By ores sold January, 172 tons 6 cwts.. at 4*l.* 17s. 3d., 838*l.* 5s. 9d.; carriage paid by purchasers, 40*l.* 18s. 5d. = 879*l.* 4s. 2d.; estimated value of copper ores for sale, 299*l.* 5s.; tin ditto, 200*l.* (less lord's dues, 52*l.* 17s. 4d.) = 1325*l.* 11s. 10d.; leaving balance of loss, 183*l.* 6s.; which, deducted from balances in favour at last account (Wheal Mary, 251*l.* 0s. 11d.; Wheal Sisters, 20*l.* 2s. 8d.), leaves balance in favour of adventurers, 88*l.* 7s. 7d.

WHEAL WHIDDEN.—The usual periodical meeting of adventurers took place, yesterday week, at the Fire-Engine Inn, Penzance. Mr. W. D. Lawry (the purser) presented the accounts, showing balance in favour of mine of about 80*l.*

## THE COBALT MINES OF KESWICK.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—In your interesting columns of the 10th of February last, a correspondent, signing himself "C.," very justly exposes the erroneous and exaggerated statements which have appeared, respecting the value of this property, and truly states that at the Modum Mine, near Kongsberg, in Norway, there are large quantities of smalts ready at surface, for which they cannot find a market. The cause of the falling off in the demand for this beautiful colouring matter is, and the public should be made acquainted with the fact, that the employment of cobalt in colouring glass, china ware, &c., is in a great measure superseded by the lower priced article, ultra-marine, and the price of the former has fallen in consequence from 3*l.* to little more than 1*l.* per lb. I much fear the day for the profitable prosecution of cobalt mines is gone by, and the following extract from a letter from Norway, fully bears out the correctness of this opinion:—

"The Modum Cobalt Company is, so far as we have heard, entirely ruined, after having, for a long time, been a most profitable concern to the proprietors. Its present difficulties arise, not from any falling off in the produce of ore, but from a change of taste in the public, and from improvements in the manufacture of earthenware admitting of the substitution of a cheaper article for cobalt. The diminished consumption began to tell seriously on the resources of the company about 18 months ago. In the hope of an improved demand, a loan of 60,000 marcs banco was last year applied for and granted by the Storthing, in order to prevent the works from coming to a stand-still; all this money is gone, and it is feared that the greater part of it will be entirely lost, the security on which it was advanced being considered very indifferent. The works have been taken in execution by one of the principal creditors, and are not expected to realise the amount of his claim, the buildings, &c., being of little or no value, except in connection with the production of cobalt. So completely are the resources of the company absorbed by their stocks of mineral, that the working population of 800 families has been in danger of absolute starvation from being suddenly thrown out of employment; to avoid such a calamity, the Government is now carrying on the works on a diminished scale, so as to give these people an opportunity of obtaining employment elsewhere, the commission of bankruptcy having no funds whatever in hand. We have written to Christiania for further information respecting this concern, and hope to be able to communicate it to you in the course of a few days."

Such is the effect produced on these once valuable works, by a change in the commercial value of their product; and it does not require any arguments to convince the mining public that the cobalt mines of Keswick cannot now be considered of any value, unless, as has been stated, they can be advantageously worked for silver lead; and after the disinterested notices which have appeared in the *Mining Journal*, if any persons are soft enough to embark their capital in this doubtful affair, they can blame no one but themselves if ultimate loss is the result.—CAUTION: *Dowgate Hill, Feb.* 28.

## NATIVE COPPER IN AMERICA.

At a recent meeting of the Academy of Sciences, at Paris, M. Cordier exhibited a mass of native copper, from the banks of Lake Superior, in the United States of America, and communicated on this subject the following particulars:—Some time since, beds of native copper, of considerable extent, were discovered on the eastern banks of Lake Superior; more than 120 companies are at present occupied in working these valuable beds, which are extremely remarkable in many respects. The copper is always found in its native state, and is disseminated in pieces of various size and irregular form, through a vast extent of pyroxenic porphyry, passing to the state of brown wacke, often amygdaloid, and which completely resembles the pyrogenous rocks in the neighbourhood of Oberstein, in the Palatinate. The metallic particles are found sometimes as forming part of the rock, and at other times they occupy irregular veins, formed of white and spathose carbonate of lime.

A specimen exhibited to the academy by M. Cordier, weighed upwards of 112 lbs., and contained very little gangue. This specimen, as well as another more than ten times its weight, formed part of a cargo of several tons which recently arrived at Havre; it is intended to be placed in the Museum of Natural History. The copper is of extraordinary tenacity and purity, containing scarcely ten parts in a thousand of sulphur and silver. At one of the extremities of the copper district, where this metal is somewhat less abundant, it is replaced by native silver, disseminated in some parts throughout the rock, and also in the copper, in particles extremely fine, generally not readily to be perceived, and rarely attaining the size of a centimetre (0·393 inch). The association of these two metals in a native state, is a circumstance entirely new. From the information communicated to M. Cordier, a copper is obtained by smelting, often containing 20 per cent. of silver, M. Cordier has seen an ingot sent for assay, which was found to contain more than 30 per cent. of silver. If, as it would appear probable, these discoveries should lead to extensive workings, the United States of America, which already possess rich mines of iron and anthracite in the old territory of the Union, and who will derive advantage from the working of the lead mines of the Upper Mississipi, and of the almost incredible "diggings" in California, will be placed at the head of those nations which Nature has most favoured in the distribution of subterranean wealth.

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CALIFORNIAN GOLD.—A correspondent says—"Having been interested by the various statements of the modern discovery of gold in California, I felt induced to examine the remains of Dartford Priory—premises, I was surprised to learn, occupied during the reign of Queen Elizabeth (A.D. 1577) for experimentalising upon ores supposed to be gold, the product of the expedition of Sir Martin Frobisher. Dunkin, in his *Antiquities of Dartford*, supposes that the ancient priory church was demolished to furnish materials for the extensive additions made to the priory for the smelting mills and furnaces to assay, &c.—"the ewar" (ore) of which, he says, 140 tons were sent to Dartford, after being landed at Bristol from the ships *Ayde* and *Gabriel*. The following year "the three gold-fynars, and the number of miners with apparatus" at the diggings sent to England, 1296 tons of ore. After, however, "carrying on for some time the operations of smelting and refining very spiritedly" at Dartford, the speculation was abandoned, "as the ewar did not turn out so valuable" as was expected. Independently of Queen Elizabeth giving the priory, her palace, for the experiment, she advanced 4000*l.* in the scheme; the total expenses of the voyages to fetch the ore amounted to 20,345*l.* It may thus be seen that speculation in gold dust was not found to be very productive in Queen Elizabeth's days, and that the truth of the proverb, "All is not gold that glitters," was then tested."

The *St. George* left the London Docks yesterday full of goods, and with 60 passengers, for San Francisco, many of them persons of respectability. She was despatched by Messrs. Cousens and Sunley, and is the first vessel which has sailed for San Francisco from this port.

CALIFORNIA.—The Boston line-of-packet-ship, *Washington Upton*, Captain Caldwell, arrived at Liverpool, on Thursday afternoon, with advices to the 8th Feb. From California we have no new accounts; but the state of the Union, relative to the modern El Dorado, may be gathered from the following extract from the *Boston Atlas*:—"Our exchange papers come to us filled with accounts of meetings held in every part of the Union of those preparing to emigrate to El Dorado, and the fever begins to extend to the British provinces, and a company is projected in the slow-moving city of Quebec. The ship, *Duxbury*, Capt. Farina, cleared yesterday forenoon for California; she has 110 passengers. The *Duxbury* was recently purchased for $10,000; and her passage money for the trip to California amounts to $16,500. The brig, *Acadian*, for San Francisco, went to sea yesterday forenoon. A large number of the friends of the passengers gathered on the wharf to see her off, and bid adieu to those going out in her. The Columbia Mining Association held a meeting at the Shawmut-house, on Tuesday evening, and elected officers. The *Gloucester Telegraph* states, that it is proposed to form a company of 20 in that town, to purchase and load the brig, *Eagle*, of that port, and proceed to the Californian coast forthwith. The Holyoke Mining Company started from Northampton for California, by way of the isthmus, on Monday. A new company, called the North-Western Association, has been formed, and will sail in a few days. The members (20 in number) each pay in $1000. Most of the association belong to Boston and vicinity. A joint-stock company is in process of formation in New York, composed of members of the Methodist Episcopal Church, and others agreeing with them in sentiment, whose destination is California."

CALIFORNIA GOLD TRIED, AND FOUND WANTING.—Mr. Warwick, of No. 17, John-street, has received a quantity of the shining metal which abounds in California; but, for the sake of the hundreds and thousands of enterprising young men, who are daily leaving for the gold diggings, it is to be hoped that this is not a fair specimen of the ore which is washed from the sands along the rivers of that country. The first piece tested was a lump about the size of a robin's egg, quite heavy, and bearing a decidedly golden appearance. Acid poured on this lump made no impression on the shining mass. The next test made was by the acid of the *pierre de touche*. The California lump was rubbed on the stone, and beside it, on the same stone, was rubbed a piece of gold 16 carats fine; the acid was then applied to the surface of the stone, and in a few seconds the marks of the California metal were entirely obliterated, while those made by the real gold shone forth as brightly as ever. Mr. W. proved beyond a doubt that the specimen which he had was nothing but pyrites of iron. It is stated that considerable sales of spelter solder have been made in this city within a short time past. This material looks very much like the gold dust washed from river sands, and the inexperienced eye would at once be deceived by it. It is sold for a few cents per pound: and the impression is, that large quantities will be shipped to California, and having arrived there the probability is that somebody will be taken in by it. This stuff will not bear the test of acid, so that ordinary care will prevent deception being practised by its aid. Another specimen of *quasi* California gold, produced by Mr. Warwick, was a very pretty piece of mica, exceedingly handsome to look at, but entirely worthless.—*New York Paper.*

GOLD FROM CALIFORNIA.—It has been reported in the city that intelligence had been received at the Bank of England, to the effect that her Majesty's surveying brig, *Pandora*, Lieut. Wood, was coming home from the Pacific with a freight of gold diggings, to the amount of 9 tons, or to the value of 900,000*l.* sterling. This will give the lucky commander about 11,000*l.* for the freightage; the admiral's share will be 2875*l.*; and Greenwich Hospital will benefit to the like amount.

GOLD OF OPHIR.—A writer in Pennsylvania undertakes to prove that Solomon obtained his gold for the temple from California—that this was the place called Ophir in the Book of Kings. He also thinks the Queen of Sheba came from that region.—*F. Douglas's North Star.*

CALIFORNIAN GOLD.—There is (says the *Liverpool Standard*) at present to be seen on the Earl of Derby's estate at Knowsley, a considerable quantity of gold dust imbedded in soil which has been brought from California along with some rare trees and plants. [What next?]

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INJURY TO LAND BY MINING BENEATH IT.—At the northern circuit, on Wednesday, a case (Humphries *v.* Brogden) was tried, in which the plaintiff was a gentleman of property in the western part of the county, and occupies a farm called Ramshaw-hall Farm, in the town of Evenwood. The property is copyhold under the Bishop of Durham, and the royalties are held by lease from the bishop by Lord Strathmore. The defendants were the Durham County Coal Company, and they were sub-lessees of the mines and minerals under the Ramshaw-hall estate. In working the coals under plaintiff's fields, the defendants had worked to the eastern extremity of the plaintiff's land, leaving pillars of coal to prop the roof as usual. But when they had reached the eastern end, and worked out all the coal, they commenced to remove the pillars, and the consequence was that the land above shrunk, and the land of the plaintiff was injured. The removal of the pillars, it was contended by the plaintiff, was contrary to the custom of the country, but it was shown by the defendants, through Messrs. Wood and Barkas, two eminent viewers, that since the invention of the Davy lamp, the practice had been general in the coal trade; and the former gentleman said the pillars had been removed under Newcastle-town-moor so early as 1765. The defendants were willing to pay the actual damage, but they contended that the sum claimed by the plaintiff (300*l.*) was excessive, and included items of charge, drainage of the land, additional cost of working, insurance of cattle against breaking their legs in the fissures, and permanent deterioration, which were not admissible. The jury were of opinion that the coals had been worked properly, and according to the custom of the country; but for the actual damage done to the land, they found a verdict for the plaintiff.—Damages 110*l.*

WHITEHAVEN AND FURNESS.—An additional ten miles of this line was opened on Wednesday, for passengers and mineral produce, from Mirehouse to the River Calder. The line is a dead level, with easy curves, and is furnished with numerous coal depôts. It is expected to be of great advantage to that part of Lancashire north of the sands, to the markets of East and West Cumberland, and to the manufacturing districts generally.

## ACCIDENTS IN MINES.

An analysis of the causes of deaths in mines, as recorded in the *Mining Journal*, from the 1st January to 31st December, 1848, both inclusive:—

| Counties. | Explosions. | Breakage of ropes. | Falling down shafts. | Falling of coal, roofs, &c. | Suffocation. | Waggons on trams. |
|---|---|---|---|---|---|---|
| North and South Wales | 43 | 23 | 6 | 39 | 5 | 1 |
| Lancashire | 24 | 10 | 13 | 9 | 0 | 3 |
| Staffordshire | 35 | 23 | 24 | 65 | 3 | 0 |
| Cornwall | 7 | 4 | 16 | 8 | 0 | 0 |
| Derbyshire | 2 | 0 | 1 | 13 | 0 | 0 |
| Durham | 16 | 4 | 1 | 2 | 2 | 6 |
| Northumberland | 3 | 1 | 0 | 1 | 2 | 0 |
| Shropshire | 2 | 0 | 0 | 3 | 0 | 0 |
| Cumberland | 30 | 1 | 1 | 1 | 1 | 0 |
| Totals | 162 | 78 | 62 | 141 | 13 | 10 |

| | |
|---|---|
| By explosion | 162 |
| Breakage of ropes | 78 |
| Falling down shafts | 62 |
| Falling of coal, roofs, &c. | 141 |
| Suffocation | 13 |
| Waggons on tramroads | 10 |
| Total | 466 |

## THE COPPER TRADE.

A Belgian merchant established at Valparaiso, writes as follows respecting the extension of the copper trade of Chili by Belgian houses:—"Chili furnishes an abundant supply of exceedingly rich copper ore. Thus the ordinary quality yields 25 to 30 per cent., and a richer ore, called Ejé, yields from 40 to 50 per cent. of pure copper. England imports from Chili largely, amounting, previous to 1845, to from 12,000 to 15,000 tons, but this quantity has diminished since, owing to a very heavy differential duty payable upon copper imported into England in foreign bottoms. In 1846 England exported from Chili only 9698 tons, equivalent in value to 343,921*l.* It is this differential duty which has caused the establishment of furnaces at Hamburg for smelting copper ore. This new course has given return cargoes to German vessels, and has yielded large profits besides; it has freed the north of Germany from the necessity of obtaining bar copper from England, which alone previously manufactured it. Why should not Belgium follow the example of Hamburg? It would obtain enormous advantages in a variety of ways—viz.: 1. Freights for its vessels; advantageous and easy return cargoes for the produce it sends here.—2. A new source of employment in Belgium for capital and labour. We will now see if Belgium is in as advantageous a position as England. First, the freight hence to Belgium is generally 20 to 25frs. less per ton upon a Belgian vessels than in an English one for England. Coals, it is true, are cheaper in England than in Belgium, but this does not compensate the difference of freight, which may be thus proved:—

| | |
|---|---|
| In ENGLAND—4 tons of ore, of 25 per cent., require 5 tons of coal to produce 1 ton of pure copper; therefore 5 tons, at 6 frs., make | Frs. 30 |
| Freight to England 100 frs. per ton, so, for 4 tons of ore | 400 |
| Total | Frs. 430 |
| In BELGIUM—4 tons of ore, of 25 per cent., requiring 5 tons of coals to yield 1 ton of pure metal, therefore, 5 tons at 10 frs. | Frs. 50 |
| Conveyance of 4 tons of ore, at 85 frs. the ton | 340 |
| Total | Frs. 390 |
| Difference in favour of Belgium | 40 |
| Total | Frs. 430 |

To this difference must be added the difference of freight between England and Belgium for smelted copper, which is saved by exporting the ore direct for Belgium; and for sale, the topographical position of Belgium permits its effecting sales more advantageously in Germany and in France than is to be done in England."

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The *Independence* of Brussels has lately urged upon the attention of the Belgian Minister of the Interior the importance of the removal of the import dues upon iron-wire, for the manufacture of nails, upon the same principle as he had relieved the linen trade, by the removal of the import duties upon thread. One of the two manufactories that were engaged in the trade has lately been broken up, and the object of the editor was, by the removal of the present duty, to induce other houses to take up the trade, and so compete with the manufacturers of Great Britain in this article, the demand for which is extensive on the western coast of South America.

FLOODING A COLLIERY—FRIAR *v.* GREY AND OTHERS.—This was an action tried before Mr. Justice Celeridge, at Newcastle, on Monday last, in which the plaintiff, who is a tenant for life of the Greenlaw Walls Colliery, in Northumberland, against the defendants, to whom he had granted a lease for 42 years from the 30th of April, 1838, at the option of defendants to quit at any time, by giving 18 months' notice. A variety of the covenants in the lease were alleged to have been broken by the defendants, and notice in consequence had been given them. They were the non-payment of the rent, not leaving sufficient pillars for the support of the roof, and having flooded the mine, by taking up the pumps and engines, and allowing the water to fill the shafts; but the Court above had decided that the tenancy was not at an end. Mr. Robinson stated the case for the plaintiff, and said nominal damages only were required, as the real question, whether or not there was a real tenancy after notice to quit, would be again argued on a writ of error. Mr. Grainger, in addressing the jury for the defendant, argued that no substantial injury had been done to the plaintiff, and produced evidence to prove, that working a colliery by "long work," and leaving no pillars was usual and safe, and that the flooding the mine would be of no very serious injury. His lordship, in summing up, directed the jury, that the breaches of some of the covenants charged against the defendants had been proved, particularly as to the rent for the colliery and land, and they found a verdict for the plaintiff for 280*l.* for the rent of the colliery, 5*l.* for the land, and nominal damages for the injuries said to be done the plaintiffs by the other breaches of covenants.

SWANSEA.—Among the latest foreign arrivals at this port are the *Caledonia*, Captain Noel, from Havannah, with copper ore, timber, and a general cargo; the *Sir Isaac Lyon Goldsmid*, Captain Pitt, from Cuba, with 428 tons of copper ore, consigned to Mr. W. H. Francis; and the *Pearl*, Capt. Collins, from Cuba, with 540 tons of copper ore, consigned to the Cobre Company.—*Swansea Her.*

The railway calls for March, advertised up to the present time, amount to 2,187,720*l.*, the whole being for British and Irish lines. For the corresponding month of last year, they were 1,848,920*l.* for British, and 1,287,000*l.* for foreign, making a total of 3,135,920*l.*

An American paper mentions a new casuality in railway travelling. One night, the water in the engine of the afternoon train, from Laurence to Saltram, was frozen in Middleton Woods, and the passengers, 14 in number, were detained in the cars all night.

## NEW PATENTS.

A. F. Rémond, Birmingham, for improvements in machinery for folding envelopes, and in the manufacture of envelopes.

W. Brindley, Twickenham, papier machie manufacturer, for improvements in the manufacture of waterproof paper.

C. Jacob, Nine Elms, Surrey, engineer, for improvements in the manufacture of earthenware tubes or pipes.

Dion de Bourcicault, gent., Quadrant, Regent-street, for certain improvements in the mode or modes to be used for transmitting and distributing liquids and fluids for agricultural purposes, and for apparatus connected therewith.

T. Rowlandson, Liverpool, chemist, for improvements in the treatment of certain mineral waters to obtain products therefrom, and in obtaining certain metals from certain compounds containing those metals, and in obtaining other products by the use of certain compounds containing metals.

P. I. David, Paris, for improvements in bleaching cotton.

J. Cutler, Spark Brook, near Birmingham, civil engineer, for certain improvements in the manufacture of metal pipes or tubes.

G. F. Wilson, gent., Belmont, Vauxhall, for improvements in separating the more liquid from the more solid parts of fatty and oily matters, and in separating fatty and oily matters from foreign matters.

C. A. Kurtz, gent., Wandsworth, Surrey, for improvements in looms for weaving.

O. Blake, of the Thames Plate Glass Company, Blackwall, Middlesex, manager, for certain improvements in the process or processes of manufacturing and finishing plate sheets or panes of glass.

J. Barker, Esher-street, Kennington, artist, for an improved method of constructing umbrellas and parasols.

J. Hick, Bolton-le-Moors, Lancaster, engineer, and W. H. Gratrix, Salford, in the same county, engineer, for certain improvements in steam-engines, which improvements are more particularly applicable to marine engines, and also improvements in machinery or apparatus for propelling vessels.

B. Biram, gent., Wentworth, York, for improvements in miners' lamps.

R. Pollard, Topsham, Devon, rope-maker, an improvement in rope-making machinery.

H. Crosley, of the firm of H. Crosley, Son, and Galsworthy, Emerson-street, Surrey, engineers and coppersmiths, for certain improved modes or methods of, and apparatus for, heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes.

P. M. Parsons, Lewisham, Kent, civil engineer, for certain improvements in railways, railway engines and carriages, and certain of their appurtenances.

C. A. F. Rochaz, New-court, St. Swithin's-lane, merchant, for improvements in the manufacture of oxide of zinc, and in the making of paints and cements where oxide of zinc is used

### DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

E. Belmer, Peter-street, Westminster, spring lever for spring hats.

R. and W. Wilson, Wardour-street, shower bath.

W. Wilson, Manchester, triple bath-tap. G. Shardlow, Nottingham, body gauge.

J. Badcock, Downham-road, London, hook for fastening garments.

E. Bird, Birmingham, lamp for railway carriages.

C. Eagle and J. Egginton, Birmingham, fastening for articles of dress.

J. F. Clark, Wolverhampton, Remington and Clark's elastic bed-laths.

Sabrina de Caulier, Coleman-street, shirts or under garments for males and females of all ages.—*Mechanics' Magazine.*

## RAILWAY TRAFFIC RETURNS.

| Name of Railway. | Lgth. Rway. | Present actual cost. | Price per share | Div. 1848 | Traffic Returns. 1849 | 1848 |
|---|---|---|---|---|---|---|
| Belfast and Ballymena | 37½ | —— | 20½ | 6 p. c. | £367 | —— |
| Birkenhead, Lancashire, & Cheah. | 19 | 997,284 | 37 | 5 p. c.* | 961 | 611 |
| Bolton, Blackburn, & West Yorksh. | 14 | —— | 5⅝ | — | 359 | —— |
| Caledonian | 141 | 3,993,732 | 23¾ 4 | — | 4548 | —— |
| Chester and Holyhead | 84 | 3,014,602 | 22½ 1¼ | 4 | 1082 | —— |
| Dublin and Drogheda | 35½ | 774,875 | 33½ | — | 724 | 654 |
| Dublin and Kingstown | 7½ | 398,915 | —— | — | 636 | 647 |
| Dundee, Perth, & Aberdeen Junc. | 47½ | 544,554 | 25 | 6 | 946 | 736 |
| East Anglian (Lynn to Ely) | 67½ | 1,167,104 | 3⅝ ¼ | — | 750 | 472 |
| East Lancashire | 44 | 1,733,915 | 19½ ¾ | 5 | 1877 | 971 |
| Eastern Counties and Norfolk | 307 | 10,364,505 | 10¾ ¼ | 4 | 12511 | 12356 |
| Eastern Union | 54½ | 1,532,232 | 12⅝ | — | 1088 | 976 |
| Edinburgh and Glasgow | 57½ | 2,556,889 | 44 5 | 6 | 2974 | 2637 |
| Edinburgh and Northern | 78 | 1,732,213 | 12½ | 4* | 1651 | 716 |
| Glasgow, Paisley, and Ayr | 102½ | 2,386,353 | 55 | 4 | 2374 | 1864 |
| Glasgow, Paisley, & Greenock | 23 | 848,328 | 14½ | 4 | 843 | 1002 |
| Gt. Northern & East Lincolnshire | 110 | —— | 11¼ | 5* | 1741 | —— |
| Gt. Southern & Western, Ireland | 131 | 2,844,897 | 23½ | 4* | 3022 | 1741 |
| Great Western | 305½ | 11,608,815 | 98½ | 7 | 16911 | 16109 |
| Kendal and Windermere | 10½ | 174,600 | 25½ | — | 125 | 111 |
| Lancaster and Carlisle | 70 | 1,476,102 | 57 | 4 | 1995 | 1891 |
| Lancashire and Yorkshire | 172½ | 8,242,628 | 72 | 6 | 11826 | 8614 |
| London and North Western | 435 | 25,077,942 | 139 7 | 7 | 36728 | 34183 |
| London and Blackwall | 4 | 1,299,675 | 5⅝ 6 | 1-12 | 437 | 632 |
| London, Brighton, & South Coast | 162½ | 6,284,812 | 36 5⅝ | 2½ | 6471 | 5534 |
| London and South-Western | 215 | 7,490,688 | 38½ 9 | 6 | 7526 | 6358 |
| Londonderry and Enniskillen | 14½ | 154,643 | 16 | — | —— | 103 |
| Manchester, Sheffield, & Lincolnsh. | 91½ | 4,651,093 | 39 40½ | 5 | 2778 | 2029 |
| Midland Company | 471 | 14,042,340 | 84¼ | 6 | 19133 | 17764 |
| Midland Great Western (Irish) | 50 | 725,332 | 18½ | 4* | 1049 | 952 |
| North British | 99 | 3,163,450 | 16 15⅞ | 5 | 2446 | 1728 |
| Scottish Central | 45½ | 1,245,496 | 25½ | — | 857 | —— |
| Shrewsbury and Chester | 47 | 780,272 | 19⅜ | 5 | 1394 | 456 |
| South Devon | 53½ | 1,789,351 | 18 | — | 1567 | 636 |
| South-Eastern | 165¼ | 7,389,322 | 25¼ ¼ | 6⅜ | 6156 | 6503 |
| Taff Vale | 38 | 820,056 | —— | 6¼ | 1715 | 1823 |
| Ulster | 36 | 684,684 | 45⅛ | — | —— | 635 |
| Whitehaven Junction | 12 | 150,879 | 109 | 3 | —— | 167 |
| York, Newcastle, & Berwick | 269 | 5,038,255 | 26 5⅛ | 8 | 11200 | 9746 |
| York and North Midland | 265½ | 4,179,309 | 51 49 | 8 | 6454 | 5934 |

## DEPRECIATION OF FRENCH RAILWAY PROPERTY.

At the commencement of the present year, the nine French railways—the Amiens and Boulogne, the Centre, the Montereau and Troyes, the Orleans and Bordeaux, the Paris and Strasbourg, the Tours and Nantes—with an aggregate capital of 20,820,000*l.*, of which the sum of 12,400,000*l.* has been called up, the value was 5,600,000*l.*—showing a depreciation in value of the sum paid of 6,800,000*l.*, or 54·8 per cent. This, no doubt, arose from the feeling of necessity caused by the revolution of February, 1848. Since then the strenuous efforts of the present Government to secure order has caused a considerable rise, and there is no doubt that, in a short period, should things remain in their present tranquil state, they will again be at par. The shares of the Paris and Strasbourg, according to the latest quotations, were the highest.

The following table will show the value of the shares of the principal lines during the month of February in the years 1848 and 1849:—

| | Feb. 2, 1848. | Feb. 2, 1849. | Present Price. |
|---|---|---|---|
| Orleans | £47 8 2 | £28 8 2 | £32 8 2 |
| Rouen | 36 4 1 | 18 4 1 | 20 12 3 |
| Northern | 21 8 2 | 15 12 3 | 18 8 2 |
| Bordeaux | 19 4 1 | 15 8 2 | 17 4 1 |
| Havre | 17 16 4 | 9 12 3 | 13 16 4 |
| Marseilles | 22 4 1 | 7 8 2 | 8 0 0 |
| Centre | 21 12 3 | 10 0 0 | 14 8 2 |
| Boulogne | 14 12 3 | 7 12 3 | 10 0 0 |
| Strasbourg | 16 4 1 | 13 8 2 | 14 10 0 |
| Nantes | 15 8 2 | 12 8 2 | 13 12 3 |
| St. Germain | 25 12 3 | 13 12 3 | 17 0 0 |
| Versailles (right branch) | 11 12 3 | 5 0 0 | 7 4 1 |
| " (left branch) | 7 12 3 | 4 16 4 | 6 8 2 |
| Montereau | 9 12 3 | 4 8 2 | 7 12 3 |
| Bale | 6 8 2 | 3 8 2 | 3 12 3 |

[The exchange has been calculated at 25].

## FLUCTUATIONS IN THE STOCK AND SHARE MARKET,

DURING THE MONTH OF FEBRUARY.

| Stocks and Shares. | Share. | Paid. | Pr. Feb. 1. | Highest. | Lowest. | Present. |
|---|---|---|---|---|---|---|
| Consols | — | — | 92 | 94¼ | 90¼ | 91⅝ |
| Exchequer Bills (June) | — | — | 45s-49 pm. | 53s pm. | 38s pm. | 38s-41 pm. |
| RAILWAYS. | | | | | | |
| Blackwall | £13 6 8 | 13 6 8 | 5 | 6¼ | 4⅞ | 5¼* |
| Brighton | Stock | 50 | 35½ | 36 | 34⅛ | 35½ |
| Birmingham and Oxford | 20 | 20 | 26 | 26½ | 25¼ | 26 |
| Caledonian | 50 | 50 | 26 | 26 | 21⅛ | 23¼* |
| Eastern Counties | 20 | 20 | 11⅛ | 11⅝ | 10⅜ | 10⅝ |
| Great Northern | 25 | 10 | 10⅝ | 11⅛ | 10⅛ | 11⅛ |
| Great Western | 100 | 100 | 104 | 105¾ | 98 | 97* |
| London and North-Western | Stock | 100 | 138 | 143 | 134 | 137* |
| Midland | Stock | 100 | 98 | 99⅛ | 85 | 85* |
| North Staffordshire | 20 | 15 | 12 | 12½ | 11⅛ | 12 |
| South-Eastern | £33 2 4 | 33 2 4 | 26 | 26 | 25 | 25½ |
| South-Western | Stock | 50 | 44 | 44½ | 38½ | 39* |
| York and North Midland | 50 | 50 | 59½ | 59½ | 50* | 50* |
| Boulogne and Amiens | 20 | 20 | 8 | 10½ | 7⅛ | 9½ |
| Northern of France | 20 | 12 | 7⅛ | 10⅝ | 7⅛ | 9⅛ |
| Paris and Lyons | 20 | 10 | 4½ | 5 | 4⅛ | |

The range of Consols, it will be observed, has been 3¼ per cent.; and, notwithstanding the continued buoyancy of the market for the first two or three weeks, they are now ⅝ per cent. below their quotation at the commencement of the month. In shares, also, the range has been considerable, and, on the average, with the exception of the French lines, they have experienced a considerable decline.—*Times.* * Ex. div.

## CORNISH STEAM-ENGINES.

[Abstract from Browne's *Cornish Engine Reporter*, from Jan. 20, to Feb. 20, 1849.]

| | |
|---|---|
| **PUMPING-ENGINES.** | |
| Number reported | 24 |
| Average load per square inch on the piston, in lbs. | 12·5 |
| Average number of strokes per minute | 6·2 |
| Gallons of water drawn per minute | 5962 |
| Average duty of 17 engines—being million lbs. lifted 1 foot high, by the consumption of 1 cwt. of coals | 61·7 |
| Actual horse-power employed per minute | 1073·8 |
| Average consumption of coals per horse-power per hour, in lbs. | 4·0 |
| **ROTARY-ENGINES—WHIMS.** | |
| Number reported | 19 |
| Number of kibbles drawn | 73,827 |
| Average depth of drawing, in fathoms | 125·1 |
| Average number of horse-whim kibbles drawn the average depth, by consuming 1 cwt. of coals | 52·1 |
| Average duty of 11 engines, as above | 17·3 |
| **STAMPS.** | |
| Number reported | 7 |
| Average number of strokes per minute | 10·3 |
| Average duty of 3 engines, as above | 37·1 |
| Actual horse-power employed per minute | 89·1 |

| PUMPING-ENGINES DOING HIGHEST DUTY. | | Millions |
|---|---|---|
| Par Consols | 80-inch single | 94·9 |
| Fowey Consols | 80-inch single | 89·0 |
| Great Polgooth | 80-inch single | 84·8 |
| Par Consols | 72 and 36-inch Sims's combined | 80·2 |
| Callington | 50-inch single | 75·4 |
| Trelawny | 50-inch single | 66·9 |
| **WHIM-ENGINES.** | | |
| Fowey Consols | 22-inch double | Millions 30·1 |
| Par Consols | 24 & 13-inch Sims's combined | 26·9 |
| Fowey Consols | 22-inch double | 23·9 |
| Par Consols | 24-inch single | 18·5 |
| **STAMPING-ENGINES.** | | |
| South Caradon | 25-inch single | Millions 44·5 |
| Tincroft | 36-inch double | 38·0 |
| Great Polgooth | 24-inch double | 29·8 |

## COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 15—Hartlepool West Hartley 15—New Tanfield 12 6—Ord's Redheugh 12—Ravensworth West Hartley 14—Tanfield Moor 13 6—Townley 14 6—Wylam 13 6—Wall's End Brown's Gas 12—Hedley 15—Wharncliffe 15 3—Eden Main 16—Lambton Primrose 16—Braddyll's Hetton 16—Hetton 16 9—Haswell 17—Jonassohns 14—Lambton 16 6—Stewart's 16 9—Whitwell 15—Heugh Hall 15—Hartlepool 16 9—Kelloe 16—Thornley 15 6—Trimdon 14 3—Adelaide Tees 16—Seymour Tees 15—South Durham 15—Tees 16 6.—Ships at market, 127; sold, 48.

WEDNESDAY.—Bate's West Hartley 14 6—Buddle's West Hartley 14 9—Chester Main 13 6—Davison's West Hartley 14 9—Holywell Main 14—North Percy Hartley 14—Ord's Redheugh 12—Townley 13—Walker's Primrose 12—West Hartley 14 9—Wall's End Acorn Close 15—Brown's Gas 12—Framwellgate 15—Hotspur 14 3—Hedley 15—Killingworth 14 9—Riddell's 14 9—Eden Main 16—Lambton Primrose 16—Hetton 16 9—Haswell 17—Lambton 16 6—Lyons 15 9—Russell's Hetton 16 6—Stewart's 16 6—Benson's 14 9—Caradoc 16—Hartlepool 16 6—Kelloe 16—Thornley 15 6—Trimdon 14 3—Denison 16—South Durham 15—Tees 16 6—West Cornforth 15—Ships at market, 134; sold, 51.

FRIDAY.—Dean's Primrose 13 6—E. Adair's Main 12—Holywell Main 14 3—Ord's Redheugh 12—Townley 13—West Hartley 15—Wall's End Acorn Close 15—Bewicke and Co. 15—Brown's Gas 12—Framwell Gate 15—Gosworth 15—Gibson 14 3—Hedley 14 6—Hilda 14 6—Eden Main 16—Lambton Primrose 15 9—Braddyll's Hetton 16—Hetton 16 9—Keepier 16—Lambton 16 6—Lyons 15 9—Russell's Hetton 16 6—Stewart's 16 6—Benson's 14 9—Caradoc 16—Hartlepool 16 6—Kelloe 16—Thornley 15 6—Trimdon 14 3—Denison 16—South Durham 15—Tees 16 6—West Cornforth 15—Ships at market, 134; sold, 51.

### THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Feb. 24, was—No. of passengers, 16,686.—Amount of money, £69 10s. 6d.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Gold coin to Mauritius, 12,240*l.*; ditto to Belgium, 4000*l.*—Silver coin to ditto, 11,000 ounces; ditto to Rotterdam, 4000—Silver coin to Calais, 200,000—Silver bars to Calais, 50,000; ditto to Bremen, 1731.

# Current Prices of Stocks, Shares, & Metals.

*STOCK EXCHANGE, Saturday morning Eleven o'clock.*

Bank Stock, 7 per Cent., 196
3 per Cent. Reduced Ann., 92¾ ¼ 2
3 per Cent. Consols Ann., 92¾ 2 1¼
3¼ per Cent. Ann., 98¾ ¾ 3
Long Annuities, 8 9
India Stock, 10½ per Cent., 243
3 per Cent. Consols for Acc. 92¾ 1¾ 2
Exchequer Bills, 1000*l.* 2d. 39 41 pm.
Belgian, 4½ per Cent., —
Dutch, 3½ per Cent., 48¾ 9½
Brazilian, 5 per Cent., 82¼ 3½
Chilian, 6 per Cent., —
Mexican 5 per Cent., 26¾
Russian, 5 per Cent., 108
Spanish, 5 per Cent, 18¼ 17¼
Ditto 3 per Cent., 29½

MINES,—Another advance having taken place in fine copper, we may fairly expect a progressive rise in the standard, and especially as we learn that the demand for copper is very extensive. The advance upon tin has brought several mines into a profitable position, and from the meetings held during the past week, we find several of them declaring dividends. The amount of business done in the mining share market has been fair, whilst a constant inquiry is being made for shares in improving mines, which are firmly held.

There has been inquiries for Devon Great Consols throughout the week; some shares have been done here, but several have changed hands in the county at our present quotations.

East Wheal Rose and Wheal Seton are reported to have improved; the inquiries for each have been freely made, but especially in the former, and bargains effected.

Condurrows have been in demand at advanced prices, and but few shares sold, arising from the firmness of holders. The mine is represented to have considerably improved.

South Wheal Bassett continues to be in demand, even at advanced prices. Treviskey and Barrier are also in request.

Tincroft continues to draw the attention of buyers, and the report from the mine confirms all our private information.

South Tamar, East Tamar, and Heingston Down have been dealt in largely.

Shares in the following mines have changed hands since our last—viz: Devon Great Consols, East Wheal Rose, Wheal Seton, Carn Brea, Treviskey and Barrier, South Wheal Bassett, Tincroft, Drake Walls, Condurrow, Tamar Consols, East and South Tamar, West Wheal Jewel, Heingston Down, Trelawny, Herodsfoot, Mendip Hills, Trehane, Mary Ann, Treleigh, Wheal Trescoll, &c.

At the East Wheal Rose meeting, held on the 28th of Feb. a dividend of 25*l.* per share was declared on Nov. and Dec. workings, reserving a balance of 2727*l.* in hand. By private letters we learn that the mine is considerably improved, and that the prospects have assumed a more gratifying position than for some time past.

At the meeting of the Condurrow shareholders, held on the 20th Feb., a balance of 199*l.* 17s. 5d. was found in favour of the company. The profit arising from the two months (Dec. and Jan.) workings amount to about 570*l.* Capt. N. Vivian, in his report, congratulates the shareholders on their being now in a position they have been too long contending for. Notwithstanding the present favourable position of their financial statement, the mine is considerably improved, both in the engine-shaft and in the 70 fm. level east. The change that has taken place in the stratification, and the length of ore ground laid open, fairly justifies the opinion entertained of the mine, and that dividends will shortly be declared.

The Providence Mines adventurers held their meeting on Wednesday, the 21st of Feb., when a dividend of 10*l.* per share was declared.

At the meeting of North Pool, a dividend of 20*l.* per share was declared.

At the West Caradon meeting a dividend of 50s. per share was declared.

At the Wheal Whidden meeting, at Penzance, last week, the statement of accounts showed a balance of about 80*l.* in favour of the company.

The meeting of Wheal Tremayne company was held on Friday, the 23d, when the balance sheet showed a loss of 13*l.* 2s. 9d. on the two months' working, which, added to the former balance, presents 181*l.* 10s. 8d. against the company. The agent's report of the mine is highly encouraging, representing the different levels, especially the deeper ones, as productive, with every prospect of improvement. The stock of tin stuff on the mine is reported to be about 50 tons.

At the Wheal Margaret meeting, on the 27th Feb., a dividend of 1680*l.* was declared, being 15*l.* per share for the months of Oct. Nov. and Dec; a balance of 250*l.* 16s. was carried to the credit of the next account.

St. Ives Consols held their meeting for the quarter ending Dec. on the 27th Feb., when a balance of 771*l.* 2s. 6d. was found in favour of the company; a dividend of 5*l.* per share was declared, and a balance of 301*l.* 2s. 6d. carried to the credit of the mine.

Balliswidden and Wheal Spearn meetings were held this week, and dividends in each mine is expected will be made; but not having received the official statements, we must postpone the result to next week.

Wheal Bal adventurers met on Tuesday last, when the accounts for the five months ending in Dec. were audited, which showed a balance of 29*l.* 19s. 6d. in favour of the company, with about 70*l.* worth of tin ready for sale.

Hawkmoor meeting was held on Monday, the 26th, when a highly flattering report was presented at the meeting, which will be found in detail in another column.

The half yearly meeting of the Copiapo Mining Company was held on Wednesday last, at which the report was highly satisfactory; large shipments of ore were being made, and 1700 tons were lying in the Copiapo valley. Two new silver *minerals* had been discovered not far from the companies', copper mines, containing very rich ore, and of great promise. Capt. Waters had purchased some of the shares, which he offered to the company, and which the directors thought it wise to accept. Advices by next packet are looked to with interest.

Reports of several other meetings will be found in their usual place.

In foreign mines a fair proportion of business has been done. In Copiapo and St, John del Rey, a large number have changed hands, and bargains have been effected in Australian, United Mexican, and Bolanos.

By H.M. packet *Petrel*, which arrived at Falmouth on Wednesday last, despatches have been received by the National Brazilian and St. John del Rey Mining Companies. The National Brazilian report is more satisfactory than has been received for some time past; considerable length of stopes have been laid open, and the ground productive; the lode has been cut 12 fms deeper, and found equally good. The gold returns from Nov. 26 to Dec. 26 amounts to mks. 21 5 7 59—Cuaiba producing mks. 12 6 3 17, and Cocaes mks. 8 7 4 42.

St. John del Rey dispatches to Dec. 18.—The produce for Nov. amounts to 23,407 oits., equal to 224·87 lbs., from 6176 tons of ore. The profit for November amounts to 4002*l.* 13s. 6d. The report is highly encouraging; the supply of stone for the stamps is not only increased, but the produce is found more remunerative than anticipated from last report.

The usual monthly report has been received from the Alten Mines. The returns for the month of December have not been forwarded; but the mining report generally is of a more favourable character. Several improvements have taken place since the last report.

At a meeting of gentlemen, interested in the rescue of the property of the late Real Del Monte Company from sacrifice, held at the George and Vulture Tavern, Cornhill, no official or definitive resolutions were passed; but, from the tenor of the conversation which took place, it is evident there is a strong wish to form a new company, and work the mine on a reformed plan, and with great reduction in expense. There is a general belief that in this property which has been yet so partially explored, great discoveries will be made, and returns secured, which will well pay for the capital invested.

Letters have been received by the Imperial Brazilian Mining Association, dated Bananal, Dec. 11: the gold report shows the amount extracted from 5th of December to the 13th—from Bananal, 6 lbs. 8 ozs. 9 dwts.; and from Gongo Soco, 2 lbs. 8 ozs. 4 dwts. The total from 1st July—Bananal, 164 lbs. 5 ozs. 6 dwts.; Gongo Soco, 79 lbs. 11 ozs. 11 dwts. = 224 lbs. 4 ozs. 17 dwts. The mining report advises of no important alteration.

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The following arrivals of specie have taken place since our last:—The Peninsular and Oriental Steam Company's ship, *Pacha*, arrived at Southampton, on Saturday evening, bringing on freight 42 packages of bullion and specie. The Royal Mail steam-ship, *Severn*, arrived at Southampton, on Tuesday morning, with a portion of the West India mails, having an unusually small freight of specie, consisting of 81415 gold coin, value 1664*l.*, 18 ozs. of gold-dust, and bars of silver, value 1400*l.*: total, 3064*l.* The Peninsular and Oriental Steam Company's ship, *Indus*, arrived also, on Tuesday morning, with 51 packages of rupees, and 19 packages of gold coin (total value, 24,300*l.* sterling), and general cargo.

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HULL, THURSDAY.—Since we last wrote, the share trade has continued very quiet, and prices remain without material alteration. The quantity of stock offering on the market, however, is not large, notwithstanding the late decline in Consols.

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NORTH POOL.—The usual two-monthly meeting took place at the mine, on Tuesday last, when the accounts for November and December, of which the following is an abstract, were allowed, and a dividend of 20*l.* per share was declared:—By balance from last account, 58*l.* 0s. 10d.; ores sold (less dues), 3915*l.* 11s. 8d.=3973*l.* 12s. 6d.—To costs, &c., 1944*l.* 18s. 9d.; dividend of 20*l.* per share, 2000*l.*=3944*l.* 18s. 9d.: balance in purser's hands, 28*l.* 13s. 8d. —Ores have been sold, in Jan. and Feb., realising, less dues, 4202*l.* 4s. 7d.

CORNWALL RAILWAY.—The fifth half-yearly meeting of the proprietors of this company, was held at the town hall, Truro, on the 23rd of Feb., J. T. Treffry, Esq., in the chair. W. H. Bond, Esq., the secretary, read the report, which stated that during the past half-year the directors had limited the expenses to such as were unavoidably necessary for preserving the property and conducting the business of the company, and had suspended the payment of interest on the deposits and calls paid up; and they recommended that all claims for such interest should be suspended until the resumption of the works. The report was adopted, and after the necessary business, the meeting broke up.

The Henley and London Waterworks and Navigation Bill was thrown out in the House of Commons, last night.

*Oldham.*—Wm. Bentley, aged 15, was so injured by an explosion of fire-damp at the Moss Lane Colliery, belonging to Messrs. Milne and Travis, that he soon after died. He had been cautioned not to go to a certain part of the mine with a light, but disobeyed.

## PRICES OF MINING SHARES.

### BRITISH MINES.

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 1000 | Abergwessin | 8 | 8 |
| 1024 | Alfred Consols | 8¾ | 5 |
| 1000 | Antimony&Silver-Lead | 5 | 5¼ |
| 1024 | AshburtonUnited Mines | 8¼ | 7½ |
| 1624 | Balleswidden | 9 | 18 |
| 128 | Balnoon Consols | 25 | 25 |
| 10000 | Banwen Iron Co. | 6 | 6¼ |
| 1000 | Barristown | 5¼ | 1¼ 2 |
| 4000 | Bedford | 2 | 2¼ ¼ |
| 1244 | Birch Tor Tin Mine | 9 | 3 |
| 8000 | Blaenavon | 50 | 17½ |
| 100 | Botallack | 182 | 40 |
| 120 | Brewer | 5 | 7 |
| 10000 | British Iron, New, regis. | 12 | 8 |
| — | Ditto ditto, scrip | 10 | 10 |
| 128 | Budnick Consols | 52½ | 35 |
| 1000 | Callington | 20 11 | 12 15 |
| 1000 | Camborne Consols | 5 | 3¼ |
| 20000 | Cameron's Steam Coal | 6 | 1 |
| 256 | Caradon Copper Mine | 9½ | 2½ |
| 256 | Caradon Mines | 22½ | 10 |
| 256 | Caradon United | 24 | 5 8 |
| 256 | Caradon Wh. Hooper | 21 | 8 |
| 1000 | Carn Brea | 15 | 95 100 |
| 3000 | Carthew Consols | 1¼ | 5 |
| 114 | Charlestown | 220 | — |
| 512 | Coatlithe Hill | ¼ | 1 |
| 500 | Comblawn | 5½ | 3 |
| 128 | Comfort | 45 | 35 |
| 256 | Condurrow | 20 | 55 60 5 |
| 2560 | Cook's Kitchen | 14 | 2 |
| 1000 | Coombe Valley Quarry | 3¾ | 4¼ |
| 1000 | Copper Bottom | 1¼ | 6¼ |
| 1024 | Coulsean | 4¼ | — |
| 212 | Craddock Moor | 23¼ | 5 |
| 128 | Creeg Braws | 120 | 30 |
| 500 | Cubert Mine | 12¼ | — |
| 1000 | Cwm Erfin | 3 | 3 4 |
| 300 | D.Prior & Buckfastleigh | — | — |
| 7100 | Derwent | 8¼ | 5 |
| 845 | Devon&CourtenayCon. | 7½ | ¾ |
| 1024 | Devon Great Consols | 1 | 225 30 |
| 1000 | Dhurode | 2 | 5 |
| 186 | Dolcoath | 30 | 15 |
| 2560 | Drake Walls | 5¼ | 4 5 |
| 10000 | Durham County Coal | 45 | 9 |
| 3000 | Dyfngwn | 10 | 12½ |
| 512 | East Alvenney | 5¼ | 5½ |
| 2500 | East Birch Tor | 3 | 3½ |
| 112 | East Caradon | 47 | 47 |
| 2048 | East Crowndale | 6¼ | 4 |
| 512 | East Combe Silver-Lead | 6½ | 6¼ |
| 128 | East Pool | 15 | 35 40 |
| 9000 | East Tamar Consols | ¾ | ¾ |
| 94 | East Wheal Crofty | 125 | 250 |
| 1024 | East Wheal Fortune | 2 | 3 |
| 128 | East Wheal Rose | 50 | 600 50 |
| — | East of Scotland Iron Co. | 5 | 1¼ |
| 123 | East Wheal Seton | 14 | 10 |
| 1280 | Esgair Lli | 1¼ | 2¾ 3 |
| 256 | Exmoor Wh. Eliza | 6 | 6 |
| 494 | Fowey Consols | 40 | 45 |
| 1024 | Freidd Llwydd Mines | 1¼ | 3¾ |
| 6400 | Gadair | 2 | 2 |
| 4000 | Gen. Mining Co. for Irel. | 1¼ | 1¾ |
| 256 | Gonamena | 44¼ | 16 |
| 128 | Goonvrea | 4 | 2 |
| 100 | Great Consols | 1000 | 215 |
| 256 | Great Resugga Moor | 11 | 6 |
| 512 | Gt. Wh. Rough Tor Con. | 18¼ | 11 |
| 2000 | Growa Slate Company | 5 | 5 |
| 256 | Gwinear Consols | 7 | 1 |
| 6000 | Heigngton Down Con. | 1¼ | 1¾ 2¼ |
| 256 | Herodsfoot | 27 | 24 5 |
| 10000 | Hibernian | 12¼ | 1¾ |
| 239 | Hobb's Hill | 6 | 1¼ |
| 1000 | Holmbush | 22 | 2 |
| 1024 | Kingsett and Bedford | ¼ | 7¾ |
| 827 | Kirkcudbrightshire | 8¼ | 2 |
| 2048 | Lamberooe Wh. Maria | 13 | 2 |
| 252 | Lanarth Consols | — | 4 |
| 128 | Lelant Consols | 90 | 60 |
| 160 | Levant | — | 140 |
| 1000 | Lewis | 16 | 10½ |
| 1000 | Llwyn Malees | 7¼ | 7 |
| 3600 | Llynvi Iron | 50 | 50 |
| 256 | Lostwithiel Consols | 19 | 14 |
| 6000 | Marke Valley | 10 | 1¼ |
| 5000 | Mendip Hills | 3 | 1¾ ¾ |
| 128 | Metha | 34 | 140 |
| 20000 | Mining Co. of Ireland | 7 | 4 |
| 256 | New East Crowndale | 3¾ | 2¾ |
| 100 | North Pool | 45 | 535 |
| 140 | North Roskear | 5½ | 165 |
| 252 | North Wh. Leisure | 1¼ | 2 |
| 15000 | Northern Coal Co. | 23 | 2 |
| 128 | Par Consols | 55¾ | 1000 |
| 8000 | Pennant & Craigwen | 2 | 2 |
| 1024 | Penzance Consols | 16s 3d | 2 |
| 512 | Plymouth Wh. Yeoland | 6¼ | 10 |
| 200 | Polsaith Consols | 5¼ | 4¾ |
| 2500 | Rhoswiddol&Bacheldon | 10 | 10 |
| 10000 | Rhymney Iron | 50 | 13 |
| 10000 | Ditto New | 7 | 6¾ |
| 1000 | Rosewall Hill | 1 | 5 |
| 256 | Rosewarva Mines | — | 12 |
| 2048 | Runnaford Coombe Tin | ¾ | 2 |
| 9000 | South Tamar | ¾ | ¾ 1¼ |
| 128 | South Caradon | 5 | 400 |
| 1100 | South Dolcoath | 4 | 5 |

### BRITISH MINES—*continued.*

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 256 | Sth. Friendsh. Wh. Ann | 20 | 4 |
| 256 | South Molton | 5 | 12¾ 15 |
| 256 | South Tolgus | 14 | 50 5 |
| 256 | South Trelawny | 28¼ | 2 3 |
| 9000 | South Wales Mining Co. | ¾ | 1 1¼ |
| 128 | South Wheal Basset | 20¾ | 280 300 |
| 124 | South Wh. Frances | 160 | 220 |
| 256 | South Wh. Josiah | — | 3 |
| 1000 | South Wh. Maria | 2¾ | 1¼ |
| 10000 | Southern&Western, Irish | 2 | 4 |
| 280 | Spearne Moor | 30 | 40 |
| 256 | St. Austell Consols | 9 | — |
| 94 | St. Ives Consols | — | 320 |
| 128 | St. Michael Penkivel | 5 | 10¼ |
| 999 | St. Minver Consols | 1 | 6 |
| 1000 | Stray Park | 43 | 18 ¼ |
| 9600 | Tamar Consols | 3 | 6 |
| 1024 | Tavy Consols | 6 | 1 |
| 6000 | Tincroft | 7 | 8¼ |
| 1000 | Tin Vale | 2¾ | 2¾ |
| 58 | Tokenbury | 170 | 10 |
| 256 | Tregordan | 2 | 8 |
| 256 | Trehane | 1¼ | 27 30 |
| 5000 | Treleigh Consols | 6 | 1¾ 2 |
| 2000 | Tremance | 3 | — |
| 96 | Tresavean | 10 | 150 |
| 120 | Trethellan | 5 | 17 |
| 120 | Treviskey and Barrier | 130 | 90 100 |
| 288 | Trevean | 1¼ | 5 |
| 100 | United Mines | 300 | 200 |
| 256 | Wellington Mines | 25 | 25 35 |
| 128 | West Buller | 10 | 150 |
| 256 | West Caradon | 20 | 115 25 |
| 512 | West Fowey Consols | 40 | 12 |
| 256 | West Providence | 9 | 15 |
| 200 | West Seton | 40 | 210 |
| — | West of Scotland Iron Co. | 240 | 90 |
| 120 | West Trethellan | 5 | 25 |
| 256 | West United Hills | — | 4¼ |
| 512 | West Wheal Frances | 1¾ | 2 |
| 256 | West Wh. Friendship | 9 | 8 |
| 3725 | West Wheal Jewel | 11 | ¾ 1¼ |
| 256 | West Wheal Tolgus | 21¼ | 8 |
| 256 | West Wheal Treasury | 19 | 5 |
| 1024 | Whiddon Mines | 4¾ | 2 |
| 9200 | Wicklow Copper | 5 | 7¾ ¾ |
| 107 | Wheal Adams | 79 | 30 |
| 1000 | Wheal Agar | — | 8 |
| 256 | Wheal Albert | 10 | 1 |
| 240 | Wheal Anderton | 23 | 15 |
| 128 | Wheal Ann | — | 50¾ |
| 512 | Wheal Anna Maria | 6¾ | 8 |
| 1024 | Wheal Ash | 4¾ | 8 |
| 120 | Wheal Bal | 5¾ | 20 |
| 256 | Wheal Benny | 14¼ | 2 |
| 256 | Wheal Blencowe | 21 | 5 |
| 256 | Wheal Bucketts | 20 | 5 |
| 256 | Wheal Calstock | 5 | 12 |
| 1024 | Wheal Coad | 1 | 4 |
| 268 | Wheal Courtenay | 12¾ | 15 |
| 256 | Wheal Fortescue | 6¾ | — |
| 388 | Wheal France | 27 | 16 |
| 128 | Wheal Harriet | 45 | — |
| 100 | Wheal Henry | — | 20 5 |
| 1024 | Wheal Lawrence | 3 | 3 |
| 112 | Wheal Margaret | 79 | 200 |
| 512 | Wheal Mary Ann | 5 | 12 13 |
| 208 | Wheal Mary Consols | 60¾ | 8 |
| — | Wheal Penhale | — | 12 |
| 210 | Wheal Prospect | 4 | 7 |
| 120 | Wheal Reeth | 41 | 150 |
| 128 | Wheal Rose | 60 | 3 |
| 99 | Wheal Seton | 214 | 600 600 |
| 180 | Wheal Sisters | 35¾ | 5 |
| 494 | Wheal Sophia | 4¾ | 5 |
| 128 | Wheal Spearne | 10 | 75 |
| 128 | Wheal St. Ann | 30 | 35 |
| 550 | Wheal Trescoll | 6 | 6¾ |
| 260 | Wheal Trelawny | 7¾ | 65 70 |
| 256 | Wh. Tremaine(St. Ervan) | 9¾ | 2¾ |
| 1024 | Wheal Tremayne | 9¾ | 3 |
| 92 | Wheal Tryphena | 140 | 265 |
| 1000 | Wheal Vincent | 6¾ | 7 |
| 256 | Wheal Vlow (Perranz.) | 1¾ | ¾ |
| 184 | Wheal Vyvyan | — | 60 |
| 250 | Wheal Williams | 12¾ | 8 |
| 1024 | William & Mary Worth | 2 | 2¾ |

### FOREIGN MINES.

| | | | |
|---|---|---|---|
| 5000 | Alten Mining Company | 14¾ | 1¾ |
| 15000 | Asturian Mining Co. | 15 | 3¾ ¾ |
| 20000 | Australian | 3 | 6 5¾ |
| 10000 | Anglo-Mexican Co. | 100 | ¼ |
| 12374 | Ditto Subscription | 25 | 1¼ |
| 6000 | Barossa Range | 1¾ | 1¾ 2 |
| 3000 | Bolanos | 150 | 2¾ |
| 2000 | Ditto Scrip | 16 | 2¾ |
| 10000 | Brazilian Imperial | 23 | 6 5¾ |
| 12000 | Cobre Copper Co. | 40 | 18¾ |
| 10000 | Copiapo Mining Co. | 14 | 3¾ 4 |
| 20000 | General Mining Assn. | 20 | 13 |
| — | Guadalcanal | 4¾ | 10 11 |
| 5000 | Kinzigthal Mining Ass. | 2 | 3 |
| 20051 | Mexican Company | 59 | — |
| 2000 | Mexican & South Amer. | 8 | ¾ |
| 5000 | National Brazilian | 30 | 3¾ ¾ |
| 104000 | N. Brit. Australasian | 1 | ¼ |
| 7000 | Royal Santiago | 10 | 5¾ |
| 11000 | St. John del Rey | 15 | 10¾ 11 ¼ |
| 43174 | United Mexican | Av. 28¼ | 2¾ 3 |

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

## LATEST CURRENT PRICES OF METALS.

*LONDON, MARCH 2, 1849.*

| | per ton. |
|---|---|
| **ENGLISH IRON.** *a* | |
| Bar, bolt, & square, London | £7 0 0 |
| Nail rods | 7 10 0 |
| Hoops | 9 0 0 |
| Sheets (singles) | 10 0 0 |
| Bars, at Cardiff & Newport | 6—6 10 |
| Refined metal Wales | 4—4 5 |
| Do. antiracite | 4—4 5 |
| Pig, No. 1, Wales, cold-blast | 4 0 0 |
| Do. do. hot-blast | 3 15 0 |
| Do., No. 1, Clyde ... *net cash* | 2 13–2 14 |
| Stirling's Patent } in Glasgow | |
| Toughened Pigs } in Wales | |
| Staffordshire bars, at the works | 7 10 0 |
| Pigs, in Staffordshire | 3 7–3 15 |
| Rails | 6—6 10 |
| Chairs | 4 5 0 |
| **FOREIGN IRON.** *b* | |
| Swedish | 13 10 0 |
| CCND | 17 0 0 |
| PSI | |
| Gourieff | |
| Archangel | 12 10–13 |
| **FOREIGN STEEL.** *c* | |
| Swedish keg | 13 10–14 |
| Ditto faggot | 15 10 0 |
| **ENGLISH COPPER.** *d* | |
| Sheets, sheathing, & bolts, *p. lb.* | 0 0 10 |
| Tough cake ... *per ton* | 88 10 0 |
| Tile | 87 10 0 |
| Old copper *e* ... *per lb.* | 8*d* 8½*d* |
| **FOREIGN COPPER.** *f* | |
| South American, in bond | £73-75 |
| **ENGLISH LEAD.** *g* | |
| Pig ... *per ton* | £16 0 0 |
| Sheet | 16 15 0 |
| Red lead | 17 10 0 |
| White ditto | 22 0 0 |
| Patent shot | 19 15 0 |
| **FOREIGN LEAD.** *h* | |
| Spanish, in bond | 15 10 0 |
| American ditto | |
| **ENGLISH TIN.** *i* | |
| Block ... *per cwt.* | 4 12 0 |
| Bar | 4 13 0 |
| **FOREIGN TIN** *k* | |
| Banca, in bond | 4 17 0 |
| Straits | 4 15 0 |
| Peruvian (6 mo, 2½ p. ct. dis.) | |
| **TIN-PLATES.** *l* | |
| IC Coke ... *per box* | 1 9 0 |
| IC Charcoal | 1 13 0 |
| IX ditto | 1 19 0 |
| **SPELTER.** *m* | |
| Plates, warehoused, ... *per ton* | 15 0–15 5 |
| Ditto, to arrive | |
| **ZINC.** *n* | |
| English sheet ... *per ton* | 20 0 0 |
| QUICKSILVER, *o* ... *per lb.* | 0 3 3 |

*Terms.*—*a*, 6 months, or 2½ per cent. dis.: *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct; dis; *e*, 6 months, or 2½ per cent. dis.: *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash. *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.

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REMARKS.—A steady and fair business has been done in bar-iron, which must be quoted firm, at an advance on last week's prices. All the makers are fully engaged, and not inclined to make sales for the present. We quote the price 6*l.* to 6*l.* 10s., according to brand. Staffordshire iron continues in good request; extensive orders are in the market, but which cannot be executed unless at the late advance. Scotch pig-iron is not quite so firm; a considerable quantity in speculators' hands has been, and still is, offering for sale, but buyers are not disposed to operate except at lower rates. The price for good merchantable brands, mixed Nos., must be quoted 52s., and for all No. 1. 53s. to 54s.—cash, free on board at Glasgow. A further advance of ¼d. per lb. has taken place in English copper. English lead is in steady demand at quotations. English tin very firm, but not much business doing at the late advance. Tin-plates continue buoyant. In other metals no alteration worthy of remark.

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GLASGOW, MARCH 1.—The advance in pig-iron received a check at the end of last week, in consequence of several of the holders taking advantage of the rise to realise at a profit. The speculators do not appear so very sanguine, and are more desirous to sell ont than increase their stock. The demand by consumers is very limited, and the stock has been on the increase since the beginning of the year. On Monday a lot of 500 tons of mixed Nos. was sold as high as 54s. 6d., three months open, which was considered a very high price. To-day the market closed dull at 52s., cash, for mixed Nos., free-on-board here.

STOURBRIDGE, MARCH 2.—It is with much pleasure we find the iron trade in this district to be in a most flourishing condition, and orders are flowing in to a considerable extent. We hear that some of the most extensive houses have issued a circular, giving notice of an advance in price on merchant iron of 1*l.* per ton. The improved prospects of the trade are likely to have a great influence on prices, and the present tendency is certainly upwards, as orders are not anxiously looked for at present rates.

### CURRENT PRICE OF GOLD AND SILVER.

| | | | |
|---|---|---|---|
| Foreign gold, in bars ... per oz. | £3 17 9 | New dollars ... per oz. | £0 4 10¾ |
| ,, Portugal pieces | 6 0 0 | Silver in bars (standard) | 0 5 0 |

## LEAD ORES

*Sold at the Mine.*

| *Mines.* | *Tons.* | *Amount.* | *Purchasers.* |
|---|---|---|---|
| East Wheal Rose | 58 | £14 11 6 | Tamar Company. |
| ditto | 30 | 13 8 6 | ditto |
| ditto | 8 | 7 1 0 | Michell & Son. |
| ditto | 24 | 12 10 0 | Tamar Company. |
| *Sold at Liskeard.* | | | |
| Wheal Trelawny | 98 | £16 15 0 | Michell & Son. |
| *Sold at Aberystwith.* | | | |
| Cwmystwith | 50 | £9 13 6 | Walker, Parker, & Co. |
| *Sold in London.* | | | |
| East Tamar Consols | 60 | £12 17 0 | Walker, Parker, & Co. |

## BLACK TIN

*Sold on Friday, the 23d Feb., to the Treloweth Smelting Company.*

| *Mine.* | *Tons cwt. qr. lbs.* | *Price per ton.* | *Amount.* |
|---|---|---|---|
| West Wheal Providence | 5 16 1 14 | £53 10 0 | £311 6 2 |
| ditto | 2 2 3 23 | 51 10 0 | 110 12 0 |
| Amount of money | | | £421 18s. 2d. |

| *Mine.* | *Tons.* | *Price.* | *Purchasers.* |
|---|---|---|---|
| Charlestown | 50 0 0 | 0 | J. H. Enthoven & Co. |
| ditto | 9 | 49 15 0 .. | Daubuz; Calenick; Williams |
| ditto | 1¼ | 48 12 6 .. | Bissoe Company. |
| ditto | 1¼ | 39 0 0 .. | J. H. Enthoven & Co. |
| Polgooth | 4 | 52 5 0 .. | Williams and Co. |
| ditto | 13 | 50 2 6 .. | ditto |
| ditto | 13 | 50 2 6 .. | Calenick Smelting Co. |
| ditto | 13 | 50 2 6 .. | Ditto and Bissoe Co. |
| ditto | 12 | 50 2 6 .. | Daubuz. |
| ditto | 2 | 47 10 0 .. | ditto |
| Wheal Friendship ... *cwts.* | 16 | 40 0 0 .. | Calenick Smelting Company. |
| ditto | 12 | 41 7 6 .. | ditto |
| ditto | 8 | 37 0 0 .. | ditto |
| Wheal Essex | 16 | 61 0 0 .. | Calenick Co. & Williams. |
| ditto | 13 | 60 10 0 .. | ditto and ditto |
| ditto | 25 | 57 2 6 .. | ditto and ditto |
| ditto | 24 | 57 2 6 .. | ditto and ditto |
| ditto | 5 | 51 15 0 .. | ditto and ditto |

## COPPER ORES.

*Sampled Feb.* 14, *and Sold at Farquharson's Hotel, Redruth, March* 1, 1849.

| *Mines.* | *Tons.* | *Price.* | *Mines.* | *Tons.* | *Price.* |
|---|---|---|---|---|---|
| United Mines | 119 | £3 13 6 | Par Consols | 81 | £4 12 6 |
| ditto | 108 | 2 13 6 | ditto | 71 | 5 16 0 |
| ditto | 107 | 4 13 0 | ditto | 62 | 6 19 0 |
| ditto | 105 | 5 9 0 | South Caradon | 91 | 8 11 6 |
| ditto | 104 | 2 16 6 | ditto | 63 | 5 8 6 |
| ditto | 103 | 2 17 6 | ditto | 49 | 6 1 6 |
| ditto | 101 | 4 18 0 | ditto | 42 | 8 9 0 |
| ditto | 95 | 3 7 0 | ditto | 18 | 4 17 0 |
| ditto | 87 | 5 16 6 | Wh. Comfort | 89 | 1 18 0 |
| ditto | 86 | 4 3 6 | ditto | 74 | 2 13 0 |
| ditto | 79 | 4 9 6 | ditto | 48 | 5 1 6 |
| ditto | 76 | 4 6 6 | Tresavean | 81 | 4 14 6 |
| ditto | 65 | 5 2 0 | ditto | 60 | 2 14 0 |
| ditto | 53 | 3 13 6 | ditto | 57 | 3 14 6 |
| ditto | 52 | 3 8 0 | Creegbraws | 109 | 4 5 0 |
| ditto | 46 | 2 10 6 | ditto | 26 | 3 12 0 |
| ditto | 41 | 3 19 6 | West Trethellan | 34 | 3 2 0 |
| Par Consols | 82 | 8 11 0 | | | |

### TOTAL PRODUCE.

| | | | | | |
|---|---|---|---|---|---|
| United Mines | 1427 | £5729 7 0 | Tresavean | 198 | £757 1 0 |
| Par Consols | 296 | 1916 8 0 | Creegbraws | 135 | 556 17 0 |
| South Caradon | 263 | 1861 19 6 | West Trethellan | 34 | 105 8 0 |
| Wh. Comfort | 211 | 608 16 0 | | | |

Average Standard ... £104 0 0 | Average Produce ... 7
Average Price per ton ... £4 10 6
Quantity of Ore ... 2564 tons. | Quantity of Fine Copper, 178 tons 14 cwts.
Amount of Money ... £11,535 16 6
LAST SALE.—Average Standard ... £ 90 8 0,—Average Produce ... 9¼
Standard of corresponding sale last month, 93*l.* 10s.—Produce, 7¾.

### COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| Mines Royal | 356 | £1762 5 6 |
| Vivian and Sons | 388 | 1447 5 0 |
| Freeman and Co. | 136 | 482 15 0 |
| P. Grenfell and Sons | 505 | 2139 1 9 |
| Crown Copper Company | 78 | 244 5 9 |
| Sims, Willyams, and Co. | 422 | 1806 19 3 |
| Williams, Foster, and Co | 526 | 2958 19 3 |
| Schneider and Co. | 153 | 694 5 0 |
| Total tons | 2564 | £11,535 16 6 |

Copper ores for sale on Thursday next, at White's Hotel, Pool.—Mines and Parcels.—North Roskear 890—North Pool 580—Consolidated Mines 575—Tincroft 340—Wheal Seton 291—Fowey Consols 238—South Roskear 194—Wheal Henry 179—South Wheal Frances 173—South Wheal Basset 148—Wheal Busy 59—Cullom's ore 17.—Total quantity of ore to be sold, 3684 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels—Carn Brea 983—Tywarnhayle 339—Par Consols 306—Levant 276—Wheal Agar 207—West Wheal Treasury 147—West Wheal Buller 102—Wheal Tremayne 100—Charlestown United Mines 72—Alfred Consols 57—North Wheal Darlington 38—Botallack 20—Wheal Speedwell 12—Wheal Prosper 11—Wheal Virgin 9—Owen Vean 4—Total quantity of ore to be sold, 2677 tons.

## COPPER ORES

*Sampled Feb.* 7, *and Sold at Swansea, March* 1, 1849.

| Mines. | Tons. | Prod. | Price. | Mines. | Tons. | Prod. | Price. |
|---|---|---|---|---|---|---|---|
| Cobre | 115 | 14½ | £ 9 17 0 | Cobre | 52 | 23½ | £15 18 0 |
| ditto | 112 | 14 | 9 15 0 | Copiapo | 82 | 28½ | 20 17 0 |
| ditto | 88 | 14 | 9 19 0 | ditto | 80 | 28½ | 21 0 0 |
| ditto | 60 | 22 | 15 11 0 | ditto | 78 | 28½ | 21 0 0 |
| ditto | 58 | 21½ | 14 19 0 | ditto | 38 | 28½ | 20 10 6 |
| ditto | 45 | 21½ | 14 15 0 | Knockmahon | 118 | 8½ | 6 7 0 |
| ditto | 39 | 22½ | 15 3 6 | ditto | 110 | 10½ | 7 16 6 |
| ditto | 12 | 16½ | 11 14 0 | ditto | 28 | 7½ | 5 5 6 |
| ditto | 83 | 22½ | 15 17 0 | Burra Burra | 70 | 32 | 24 2 6 |
| ditto | 72 | 22½ | 15 18 6 | ditto | 53 | 32 | 23 17 0 |
| ditto | 67 | 22½ | 16 4 6 | ditto | 51 | 30 | 22 4 6 |
| ditto | 65 | 22½ | 15 16 0 | ditto | 30 | 33½ | 25 2 6 |
| ditto | 64 | 22½ | 16 15 6 | Berehaven | 100 | 9½ | 7 7 0 |
| ditto | 63 | 22½ | 16 2 6 | ditto | 98 | 9½ | 7 0 0 |
| ditto | 61 | 23½ | 16 10 6 | Forest Slag | 64 | 3½ | 2 1 0 |

### TOTAL PRODUCE.

| | | | | | |
|---|---|---|---|---|---|
| Cobre | 1056 | £14,796 19 0 | Burra Burra | 204 | £4840 0 6 |
| Copiapo | 278 | 5807 13 0 | Berehaven | 198 | 1421 0 0 |
| Knockmahon | 256 | 1757 15 0 | Forest Slag | 64 | 131 4 0 |

### COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| English Copper Company | 47 | £402 10 4 |
| Freeman and Co. | 14 | 73 17 0 |
| Grenfell and Sons | 309 | 4657 8 6 |
| Sims, Willyams, and Co. | 109 | 2115 5 6 |
| Vivian and Sons | 538 | 6650 1 4 |
| Williams, Foster, and Co. | 830 | 11118 16 0 |
| Mines Royal | 51 | 718 12 10 |
| Schneider and Co. | 158 | 3318 0 0 |
| Total tons | 2056 | £29,054 

# The Compendium of British Mining.

ORIGINALLY COMPILED AND PUBLISHED IN 1843.

REVISED, CORRECTED, AND ENLARGED FOR THE "MINING JOURNAL,"

BY J. Y. WATSON, ESQ., F.G.S.

## EASTERN DISTRICT.

WHEAL RUSSELL COPPER MINE is situate in the parish of Tavistock, Devon. Conducted on the Cost-book System. In 256 shares. J. H. Hitchens, Esq., J. Rundle, Esq., and Mr. J. Mathews, managers. Agent, Capt. A. Barrett. The sett, which is near the Bedford United, is on the banks of the Tamar, and a mile in extent on the course of the lodes, and held on lease from his Grace the Duke of Bedford, for 21 years, from the 9th November, 1846, at 1-15th dues.

The principal operations have been on a promising lode, at shallow levels, with such appearances as to warrant a trial at a greater depth. Upon one lode, near the banks of the river, a shaft was sunk 15 fathoms, and 30 tons of good quality ore raised; when the water became too powerful, and but little was done in the way of driving or opening ground. Another lode, 30 fathoms to the north of that above-mentioned, has also been opened upon 50 fathoms, and found to partake of favourable characteristics, and supposed to be the main lode of the district. It is about 6 feet wide, composed of gossan, spar, fluor, mundic, &c., interspersed with good stones of black and yellow copper ore. An adit has been taken up, and brought in upon the course of this lode for about 15 fathoms where it shows such appearances as to justify an outlay to prove it at a deeper level. These lodes, as well as others in the sett, are intersected by strong cross-courses, similar to those found in other mines in connection with the greatest courses of ore. The ground throughout is killas.

[*To be continued in next week's Mining Journal.*]

## NOTICES TO CORRESPONDENTS.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"L. M." (Madrid).—Grey copper ore cannot be smelted with advantage alone; the best flux would be stubborn ores with iron pyrites. There are mines of this mineral in the Cabrales, in the Asturias. Mr. Charles Green, of your city, is connected with them. Their intention has been to erect furnaces. Most probably, you would be able to receive any further information you may require from him.

VENTILATION OF COLLIERIES.—In the *Mining Journal* of Feb. 10, we noticed the election, at the Eaglesbush Colliery, near Neath, of one of the mine ventilators patented by Mr. Struvé, of Swansea. We have since received a very full description of these ventilators, with diagrams, which we shall next week lay before our readers. It is from the pen of Mr. J. Richardson, C.E., of Neath, who spent an entire day in noticing its operation and results, and which turned out completely to the satisfaction of all. The machine discharged 40,000 cubic feet of air per minute, moving at the rate of only 200 feet per minute; and there is certainly no reason why it should not be worked much faster, if the state of the colliery required it, while the use of the furnace is entirely superseded. Mr. Richardson being a totally disinterested party, and, from his practical experience, highly capable of forming a correct judgment, his description will be read with interest, and may be relied on.

"A. Z." (Farringdon-street)—Sound is transmitted entirely through the agency of the air. A bell rung inside the exhausted receiver of an air-pump can scarcely be heard; and if a *perfect* vacuum could be obtained, would not be heard at all. On emitting a sound by the voice, or striking a sonorous body, a series of spherical waves of air are formed, proceeding in all directions from it, similar to the annular waves formed on throwing a stone into still water. These waves strike on the tympanum of the ear, and convey to the brain the sensation of sound, according to its peculiar character. The science is termed "accoustics."

RAILWAY BREAK—BLOWING MACHINE.—Mr. S. Shaw, of Tunstall (author of *Nature Displayed*) writes—"In a late number of your Journal, I notice that you express a wish to have some additional information on Mr. R. H. Thomas's railway break and blowing machine. Of the latter, I am only able to state my opinion as to its probable capabilities for all the purposes required in such an apparatus. Of the former, a close and careful inspection of all its parts, and their respective *modus operandi*, fully convinces me that it possesses all the simplicity of construction which will ensure constant certainty of action, with all the careful adaptation that precludes possibility of derangement while in use, unless intentionally made subject thereto. Rapid and efficient simultaneous action is completely provided for, however extended may be the train. However great might be the speed, there would only result increased power of resistance in the break when used, not to be obtained by any mechanical apparatus differently applied."—[We expect to receive a sketch and description of these inventions from Mr. Thomas.]

W. Howard (City).—The influx of the precious metals from their colonies into Spain, from the discovery of the Americas until the close of the past century, caused them to neglect the mineral deposits of the mother country. The rich mine of Potosi, which produced such immense quantities of silver, has now dwindled to comparative insignificance. A good account of it has been published by Humboldt; several other writers have also given descriptions of it, but, except as a matter of history, all its interest has long ceased.

CORNWALL RAILWAYS.—In the fourth letter on this subject, in the Journal of the 10th February, Mr. Brunel's engineering charges on the South Devon Railway were stated as "nearly 400,000*l.*," instead of 40,000*l.*

"M. de B." (Bordeaux).—The great Burra Burra Mines belong to the South Australian Mining Association. The directors are—Messrs. W. Allen, C. Beck (chairman), J. Brown, J. Ellis, G. S. Kingston, W. Pascock, W. Paxton, S. Stocks, jun., and J. Waterhouse: Mr. Henry Ayers, secretary: offices, Rundle-street, Adelaide; established April 16, 1845. We gave some engravings, and a very full description of the mine works, in the *Mining Journal* of the 30th Dec. last.

A. Borel (Tours).—There are large deposits of both limestone and ironstone on the banks of the Bosphorus. The Turks do not work them, on account of their incapacity; and their jealousy has hitherto prevented them allowing foreigners to avail themselves of these advantages.

"D. M."—The contract for the docks at Newcastle was taken by Mr. Leather, of Leeds. The price is 125,000*l.*

"Woodman" (Bromley).—The hydraulic press has been successfully employed in uprooting trees of the largest growth, when the most extensive of the fibres of the roots were cut away, and thus leave the ground clear. It has been extensively applied to this purpose in Windsor Park, and is the most powerful and easily applied mechanical agent we possess.

E. R. Daniel (Morriston).—The variation of the magnetic needle is now 24° west; there may be a trifling difference of a few minutes more or less, but this will be found sufficiently correct for all general purposes. The average movement towards the north is between 3 and 4 minutes annually.

Mr J. Baverstock (Dean-street, Soho).—We have received a communication from this gentleman on the importance of economical communication in the mining districts of South Australia and our other colonies, and calling attention to timber tracks, as recommended by Mr. T. Motley. He disapproves of the triangular bearers, with flat side upwards, as a baseless fabric, which but little wear and tear would shake out of its place and render useless. He recommends a triangular form of bearer, but with the base downwards—the upper surface being flattened down to a sufficient breadth to receive a sheet-iron tray rail—viz., turned up on each side, forming a groove for the wheels to run in; and on which plan the bearers could be firmly spiked, or bolted to the sleepers. Thus almost any carriage from the common road might pass on to these tracks, as they might be made wide enough to accommodate vehicles varying several inches in the gauge of the wheels—the turned-up edges preventing them from running off.

"A Subscriber."—While we fully concur in the justness of our correspondent's remarks on the Cost-book System, and the case of Fox *v.* Wyld, we think his communication is written too much in the style of an attack on the defendant, and, as such, is inadmissable. We shall be glad to receive the promised communication, detailing the several advantages of the Cost-book System, without reference to individuals or parties.

GAS FROM WATER.—"G. S." (Plymouth).—We believe Mr. Stephen White has sold his English patent for 10,000*l.*, and is now in treaty for the disposal of that for Ireland.

Mr. John Crane's paper on the Lighting of Coal Mines, will appear in next Journal.

"Smelter" (Swansea).—The first foreign company who successfully carried out the making of cake copper, was the Alten Mining Association. Their smelting-works were erected in the year 1836. For two years they exported regulus to our port, but, in the year 1838, they had progressed so favourably, as to be able to ship cake copper to France. For some time the Imply Company, at Rouen, were the principal purchasers of this copper, which is reckoned in that market to be very ductile, and superior to British manufactured copper.

"R. T." (Birmingham).—The trial took place on the Liverpool and Manchester Railway, on the 8th October, 1829, between the following engines:—The *Rocket*, by Stephenson and Co.; the *Novelty*, by Brathwaite and Co.; the *Sanspariel*, by Timothy Hackworth, of Darlington; and the *Perseverance*, by Mr. Burstall, of Leith. The *Rocket* gained the prize—500*l.*

NEW CALCULATING MACHINE.—Mr. W. Dutton, of Tunstall, writes—"My friend, Mr. Thomas, and I have invented a machine, which we think of very considerable importance. It is intended for offices, shop counters, &c., and consists of a frame of about 9 or 10 inches square, with dials on each side—the first divided into 12 parts for pence, and subdivided for halfpence and farthings; the second dial is marked the same as the first; and a third dial is divided into 20 parts for shillings; and a fourth for pounds, &c.; all of which are connected with wheels; and after being wound up, each dial is thrown back into its proper place by means of a spring. The first dial has a ratchet wheel on its spindle, which is held by a click, and returns without interfering with the other dials: so that when it is fixed—say, on a shop counter—it will show the price of each article separate, and the total of the whole correctly, it being impossible to show a farthing wrong, not even if the amount should be one million and a farthing. The dials are arranged in columns for £ *s. d.* and farthings. In addition to which, a secret set of dials, inside, will keep account of the sums passed through the machine for 3, 6, or 12 months, the possession of which may be kept by the proprietor of any establishment, the expense of such a machine being very small."

"A Subscriber" (Richmond).—We never recommend any mining adventure for investment. Apply to some city agent. Several addresses appear in our advertising columns.

RAILWAY REFORM.—We should readily have noticed Mr. R. Cort's pamphlet, had it been forwarded to us in any reasonable time after publication; but, only reaching us a few days back, it has lost too much of its interest to call for particular comment from us.

"A Shareholder" (Cheapside).—The matter had better be brought forward at the forthcoming meeting. We cannot think but that the directors have satisfactory reasons to advance for the course they have pursued.

"A Miner" (Callington).—The copper ore raised at Mansfeld, in Prussia, is principally copper slate. It is reduced in gas furnaces. The works are in the neighbourhood of Eisleben; the fuel employed is principally coke, which is imported from England.

"S. T." (York).—The invention was patented in 1845. It was tried, but found not to answer, on account of the complexity of its details.

"Mineralia" (Maidstone).—The finest collection of specimens of copper ores is supposed to be at Menabrilly, the seat of the ancient family of Rashleigh.

The letters of the Count Von Rathen, Mr. T. Craddock, and several other correspondents, are unavoidably postponed.

*Received*—"Steam" (Bisenavon)—W. Prideaux (Plymouth)—"T. W. B." (Launceston).

*** It is particularly requested that all communications may be addressed—

TO THE EDITOR,
*Mining Journal Office,*
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.


# THE MINING JOURNAL

**Railway and Commercial Gazette.**

LONDON, MARCH 3, 1849.

THE MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.


The returns of the Board of Trade, for the month and 12 months, ending Jan. 5th last, have just been issued, from which we find that the total exports of British produce for the 12 months have been 46,407,939*l.*; and the decrease, as compared with the previous year, 4,597,000*l.* For the month, ending Jan. 5th last, there was exported—iron and steel to the value of 281,003*l.*—being a decrease, as compared with the month ended Jan. 5, 1848, of 41,618*l.*; copper and brass, 124,561*l.*—being a decrease of 9769*l.*; tin, unwrought, 70,300*l.*—being a decrease of 7980*l.*; lead, 9492*l.*—being an increase of 3161*l.*; and tin plates, 37,145*l.*—being an increase of 14,093*l.*; British salt was exported to the value of 26,062*l.*—being an increase on the corresponding month of 1848 of 15,294*l.*; glass, 19,754*l.*—being an increase of 975*l.*; hardwares and cutlery, 189,447*l.*—being a decrease of 14,443*l.*; machinery, 29,805*l.*—being a decrease of 46,290*l.*; and coals and culm, 66,439*l.*—being a decrease of 4707*l.* The total of the above exports of mineral produce for the month amounted to 724,929*l.*, and shows an amount of decrease over increase of 86,597*l.*

The exports of foreign and colonial metals have been, for the years 1847 and 1848, as follows:—Copper, unwrought, 1847, 8043 cwts.; in 1848, 3726 cwts. Iron bars, 1847, 5053 tons; 1848, 3432 tons. Steel, unwrought, 1847, 13,357 cwts.; 1848, 9779 cwts. Lead, pig and sheet, 1847, 3462 tons; 1848, 3748 tons. Spelter, 1847, 3346 tons; 1848, 3777 tons. Tin, bars, ingots, blocks, and slabs, 1847, 11,471 cwts.; 1848, 8341 cwts.

The imports of metals from foreign parts and our colonies, for the years 1847 and 1848, were as follows:—Copper ores under 8 and 9 Vic., c. 90, 1847, 41,491 tons; 1848, 14,167 tons. Under 11 and 12 Vic., c. 127, 1847, ——; 1848, 35,981 tons, making a total quantity of copper ores imported in 1848 of 50,148 tons. Copper, unwrought, 1847, 10,265 tons; 1848, 10,255 tons. Iron, in bars, 1847, 33,317 tons; 1848, 23,396 tons. Steel, unwrought, 1847, 13,097 cwts.; 1848, 6755 cwts. Lead, pig and sheet, 1847, 3932 tons; 1848, 350[illegible] tons. Spelter, 1847, 12,769 tons; 1848, 13,423 tons. Tin, blocks, ingots, bars, or slabs, 1847, 23,307 cwts; 1848, 6733 cwts. —The exports of British and Irish metals, for the years 1847 and 1848, in declared value, were—Iron and steel, 1847, 5,265,779*l.*; 1848, 4,747,009*l* Copper and brass, 1847, 1,541,868*l.*; 1848, 1,272,575*l.* Lead, 1847, 179,344*l.*; 1848, 117,181*l.* Tin, unwrought, 1847, 159,466*l.*; 1848, 143,436*l.* Tin plates, 1847, 462,889; 1848, 530,061*l.* Machinery, 1847, 1,263,016*l.*; 1848, 809,564*l.* Hardware and cutlery, 1847, 2,341,981*l.*; 1848, 1,858,593*l.* Coals and culm, 1847. 968,502*l.*; 1848, 1,096,356*l.* Glass, 1847, 291,190*l.*; 1848, 236,518*l.* And salt, 1847, 261,467*l.*; 1848, 265,296*l.*

In another column will be found a report of a meeting of parties interested in the late REAL DEL MONTE MINING COMPANY, called for the purpose of ascertaining the general feeling as to the formation of another company, to work the mines on a new and reformed plan, which, from the known riches of the district, can scarcely fail to make profitable returns. Although some misconception appeared to exist in the minds of many, as to the tenure of the property, the powers and duties of directors, and the absolute impossibility of taking any other steps than those which they have pursued in the dissolution of the company; and, although some of the more timid, inert, and unenterprising of the old shareholders gave unmistakeable symptoms of "shying," there appeared evidently a desire on the part of the larger and influential holders in the old company to secure the property, so large a portion of which is yet totally unexplored, and where, in driving the deep adit alone, brilliant discoveries may be reasonably expected.

Notwithstanding we have ever been advocates for the investment of British capital in legitimate mining adventures at home, in preference to its being devoted to enterprises in foreign lands, which have already proved the grave of millions sterling, without any return; after the patient endurance of great loss, and the perseverance exhibited by the old Real del Monte proprietors, by subscribing fresh capital for years, in the hope of still developing the riches of this fine property, we shall certainly be gratified in witnessing a new era in its progress, and an opportunity afforded by fresh discoveries for some return for the capital already sunk. There appears no room for doubt that many of the veins above the adit can now be worked to a profit; the Santa Ynez alone will realise about $10,000 a month, and the discoveries, which may be expected in the continuation of the Aviadero level, through the Moran Mine, all hold out encouragement for the embarkation of a moderate capital for its resuscitation, rather than witness property, on which so many hundreds of thousands of pounds have been expended, and on which the engines, machinery, and stores are now valued at above 100,000*l.*, irrecoverably lost, which must shortly be the case, if the Mexican creditors on the estate, are compelled to foreclose and force a sale of the property. We hope, therefore, shortly to hear that some measures have been adopted by those parties most earnest in the cause, that proposals have been made for the purchase of the property, and an early day for a general meeting fixed, for a reconsideration of the subject.

About twelve months since, a tolerably brisk agitation arose in the metropolis, the object of which was to procure from the chartered gas companies of London a reduced scale of charges for their very necessary and very universally received article. The movement, however, for want of earnestness, we believe, and adequate perseverance, came vastly short of its object. A few soft words from the directors, such as "excuse us for this time, and when your complaints are more vehement we will listen to you," adjourned the agitation indefinitely. Again there is a slight movement on this subject ruffling the face of the metropolitan waters. A meeting was held at the London Tavern, on Wednesday, the 21st ult., at which several resolutions were moved and adopted, pledging those assembled to procure an adjustment of the differences existing between the manufacturers and the consumers of gas, and principally, among those differences, a reduction of its price within the limits of the City of London. If we had been at the meeting, and were not of the number of those selected to move or to second the resolutions, we think we should have sent up our card to the chairman, and requested leave, not to burn a new gas in his presence—that will certainly be done a few week's hence—but to have illuminated both him and the meeting in reference to their actual position with respect to the article, whose price only they have been now some years debating. We should have shown the meeting that they never have had, and, what is worse, that they never can have, either a pure or economical *coal gas* wherewith to light their city. Our assertion would be justified by these two considerations—first, that though you can always evolve carburetted hydrogen from coals, yet you can never answer for the precise proportion in which the two elements are combined. The proportions will vary according to the varying constituents of the fuel used; and when the gas arrives at the point of combustion, so much hydrogen, so much carbon, and so much sulphur will be left unconsumed, as were not chemically necessary to the composition of the gas. These loose particles would have then no physical alternative but to form parts of the atmosphere of our shops and counting-houses, and so deteriorate, by being breathed, the functions of our animal economy. Up to a certain point, therefore, it is essentially an impure and injurious gas. And, secondly, how can it ever become, in the just sense of the expression, a cheap gas? Coals are, everywhere in England, comparatively a cumberous and an expensive fuel. The gas-houses, the gasometers, the tanks, the mains, and the total accumulation of expensive plant, by which even such gas as we now have must be manufactured, involve such an outlay of capital, that, except at a high price for their article, the companies could never be fairly remunerated. This is in substance the observations we should have made, *if* we had had the happiness to address the meeting. If the consumers of London have seriously made up their minds to have a cheaper and a purer gas, they must lay their account for breaking with the old companies altogether, and with the new four-shilling company also; for neither of them will be at all necessary in the presence of a new gas, which we have reason to believe is about to be exhibited in London, and whose quality and economy are affirmed to be such as that no coal gas, under any circumstances, can long keep possession against it. If the gas rental of the City of London may be set down at 150,000*l.* a year, and a more healthy and a more brilliant mass of lights be produced for a sum little exceeding 50,000*l.* per year, is it a supposable case that the diligent and heavily-taxed citizens of London will permit such a serious deduction from the profits of business to find its way into the purse of the great companies, who have so long overridden them? We desire to address these observations to the Corporation of London, which is charged with, and in a great measure responsible for, the maintenance of the public interests of the citizens at large. And we desire also to address the highly respectable committee appointed on the 21st February, trusting and believing that they will not shut out such evidence of a far better system of lighting the City as may be tendered to them, nor leave but half done a task which they have taken in hand to accomplish completely.

The principles which govern, and the passions which agitate, mankind have not been much changed in their character, nor materially abated in their intensity, by the long lapse of ages. It is as true to-day as it was twenty centuries since, that those who would grow suddenly rich are apt to fall into temptations and snares, by which their reputation frequently, and sometimes they themselves, are overwhelmed and lost. We notice in the local papers that, in the little town of Falmouth, a company is set afoot to raise 7000*l.*, not to clear and to deepen the harbour—not to clean, to broaden, or to illuminate the streets—not to build a corn market, by which to attract the farm produce, and much of the farming outlay tending to revive and enrich the gasping commerce of the town—not for any purposes so obvious, so imperative, and so attainable as these—but to fit out and freight a ship to proceed to California for gold! We could not have believed that so wild an undertaking was sanctioned by so sober a people. They know as well as we do, that the hitch in the treaty—the little informality by which the transfer of the Californias to the United States is for the moment impeded—is on the point of removal, if not already removed; and that immediately the States will enter and insist upon its perfect sovereignity and lordship of the soil and of the treasure, known and unknown, contained within it. Until that time, they know, too, into what a perfect pandemonium the sands of St. Francisco is converted, where neither law, nor morals, nor life itself, has either defence or security. They know also that, however great the quantity of gold, the number of seekers, whose multitude is increased with every morning tide, is quite as great; and that by the time the vessel, with the Falmouth pendant at her mast head, is seen in the offing, the searchers, already so numerous, will, in all likelihood, literally cover the coast. Notwithstanding these considerations, which are just so many discouragements, it is cooly purposed to drain the town of its surplus money, and sail away 4000 miles south, and the same distance north again, into the Sacramento, with merchandise, with which the market will be probably glutted, and for gold, upon which the true owners will probably have laid their strict embargo. Had the 7000*l.* been for any of the important objects referred to above, or for giving additional action and impulse to the numerous mines in the vicinity, which are now fast recovering their rank and value in the commercial scale of things, or indeed for any known branch of occupation, or of productive industry, of which the county was to be the theatre, we should have held our peace. But to gather into one heap the surplus capital of a small community, and scatter it over the ocean in pursuit of an improbable, if not of an impossible object, is a measure of which we trust both the impolicy and the imprudence will appear to those who have suggested it. In the great ports of the empire, and particularly in the metropolis, where ships and money are abundant, it is no great wonder that such thoughts are entertained; but in a small community where, as in Falmouth, so many local wants are overlooked and unsatisfied, to take the hoarded earnings of the aged and the industrious to fling into the vortex of the Californias as proposed, would be a course of which we cannot say whether the boldness, or the wickedness would be the greatest.

It is with much regret we have to state that, after thirteen years' arduous struggle with the difficulties which naturally arose before it in its endeavours to ameliorate the condition of the peasantry of Ireland, the IRISH WASTE LAND IMPROVEMENT SOCIETY has heard its last knell sounded, and will soon be numbered among the things which were. At the half-yearly meeting, which took place at the King's Head Tavern, Poultry, on Tuesday last—J. HEATHCOAT, Esq., M.P., in the chair—the report of the directors, which was incorporated with that of Colonel ROBINSON, stated that they deeply regretted the discouraging circumstances under which they appeared before the proprietors. In accordance with a resolution, passed at a meeting of proprietors, in July, 1847, to enable the directors to carry out the affairs of the company, a treaty with the Government for a loan was concluded at the close of last year, and an advance from the Treasury made of 1500*l.*, to be paid to the society by instalments. They had adopted every means in their power to carry out the objects of the society; but the distressed condition of the country had marred all their endeavours, and prevented them from being attended with profitable results. It appeared that the gross receipts amounted to 31,000*l.*; there was due from defaulters, 1530*l.* on calls; total assets in land, houses, and stock, 14,550*l.* 15*s.* 10*d.*; and the balance of cash in hand, 98*l.* 16*s.* 9*d.* Some dissatisfaction was evinced at this state of affairs, at the number of forfeited shares (4675 out of 7115), and the amount of calls unpaid, an opinion prevailing that more rigid measures should have been taken to compel payment by the defaulters, among whom was the late DANIEL O'CONNELL, who, after joining the society, and while receiving 30,000*l.* a year from the poor peasantry of Ireland, refused to pay his calls to a fund established for their relief and advancement in society; while, had the society been properly supported, it would in

all probability have paid back a fair remuneration to the shareholders for the capital employed. To whatever circumstances, however, is to be attributed its want of success, all appear to concur in the opinion that, judging from the state of the society's property, the experiment of the Irish Waste Land Improvement Society had proved an utter and hopeless failure; that it would be useless to embark any further sums in the undertaking, and that the sooner its affairs were brought to a close the better. The reports were adopted, and a resolution passed, that a committee of three proprietors be associated with the directors, and, with them, be authorised to take the most expedient measures for winding up the affairs of the society. We cannot conclude this brief notice without bearing testimony to the perseverance, disinterestedness, and anxiety for the full success of the society, and its good effects on the condition of the Irish peasant, which has throughout marked the conduct of the Earl of DEVON, the late Sir JOHN BURKE, Col. ROBINSON, and other directors and proprietors, who, deserted by numbers of their co-partners who seceded from the good cause, throwing the onus on a few, still paid all calls made upon them, and persevered to the last moment in the laudable endeavour to improve both the soil and the minds of the people—an endeavour which, had they been properly supported, would, doubtless, have been completely successful.

How oft is it that we have been called upon to give an opinion as to what is the Cost-book System?—and we should have thought any one reading the Journal with attention would have understood the views we entertain. The system in itself is simple and perfect, if properly carried out; but we fear, until some legislative enactment, it will never be understood, so many various opinions being entertained; and, in the absence of some law being laid down, whereby those who "run may read," we are apprehensive that the adventurer will be ever subjected to those abuses which are of so frequent occurrence, from the mere assertion on the part of those who assume power, by representing that their acts are in accordance with the Cost-book System. We are induced again to enter upon the subject, having received several communications, and had placed before us circumstances which require only to be exposed, at once to show the deception practised under false representations. One case will, we think, exemplify this, and, we trust, be the means of doing justice to the parties. In noticing this case, we may observe, that we have the papers before us, and have taken some little trouble to verify their accuracy, and, moreover, to satisfy ourselves of the correctness of the representations made: hence we have no delicacy in mentioning the names of parties, leaving it to them to explain—if explanation can be afforded—the justice of the course pursued, and how far it is in accordance with the system, on which professedly the mine is worked.

In 1846, or thereabouts, a mine was set to work in Cornwall, and some hundreds of pounds expended. An arrangement was thereupon entered into with parties to take the same at a given price—the then holders retaining two-fifths of the number of shares. The mine being subsequently divided into 2000 parts, or shares, a call of 1*l.* per share was made, and the amount duly paid thereon to the self-constituted committee, or directors, in London. It being deemed necessary that a code of rules and regulations should be laid down, a meeting was held for such purpose, and which having been adopted, a subsequent meeting took place for confirming the same. Among the powers with which the committee were invested, we believe was that of making such calls as might be necessary for *prosecuting the operations of the mine*. The committee thus being empowered, within some three or four days afterwards, thought proper to make a call for 2000*l.* further—they, at the same time, having in their hands 800*l.* to 1000*l.*, and the working cost of the mine not exceeding 25*l.* to 30*l.* per month. What may have been the object of the committee in so doing, having ample funds in their hands for working the mine, it is not for us to say; but the result, as will be shown, will, we think, enable our readers to make a shrewd guess. Of the 2000 shares of which the company was composed, 800 were held by four individuals, who, not possessing the necessary means to meet the call according to the conditions entered in the cost-book, subjected their shares to forfeiture in default of payment. One of such parties sent into the purser of the mine, in accordance with the Cost-book System, as understood and observed, his relinquishment of the whole, or the greater portion thereof, which, it appears, was refused. A discovery, however, having taken place which gave to the shares a value not previously contemplated, the committee at once forfeit 600 out of the 800 shares so retained by the original parties (200 having been paid upon), and at once proceed to dispose of the same, which, if we are correctly informed, was effected at the rate of 20*l.* to 25*l.* per share, thus realising to themselves, or to the body of adventurers, as may be, a profit of at least 19*l.* per share, without accounting to the adventurer whose shares were so forfeited in any way, or giving to him his proportion of monies in hand, ores, or value of materials.

This is a case too flagrant to be allowed to pass by without observation; therefore is it, that we advert to this, as one of the many which have been brought under our notice; while we shall content ourselves with merely referring to this particular mine, and the parties connected therewith, reserving until some future occasion any comment, as we are given to understand it is a matter which will be brought before a court of judicature, when it is to be hoped the system will be defined, as to "what is, and what is not, the Cost-book System."

The mine to which we refer is that of Trenance, in the parish of Mullion, county of Cornwall, of which Mr. BURNAND is chairman of the committee, and Mr. DALTON the purser (at 400*l.* per annum, if we are rightly informed). It will, doubtless, be in the recollection of our readers, that we observed, on more than one occasion, on the slabs of native copper obtained from this mine; one of which, if we recollect aright, was upwards of 6 ft. in length by 3 ft. 6 in. wide, and some 3 to 4 inches in thickness. Upon this, or some other, discovery being made of a like nature, the shares forfeited, and to which we have already referred, were put into the market, among which were 200 belonging to Capt. VERRAN, who was the agent at the mine, but who was dismissed from that appointment by the committee. These shares passed into certain hands, and an *exposé* having taken place, the matter was brought under the consideration of the committee of the Stock Exchange. Mr. BURNAND, as chairman of the company, being a member thereof, the result was such as might be well anticipated.

It is somewhat curious that one of the parties selling the mine was the brother of the partner of Mr. BURNAND, whose shares along with the others were forfeited; but this gentleman (Mr. VICKERS) received 500*l.*, which cannot be construed otherwise than as *hush money*. Much more might be said, but for the reasons already assigned, we here "draw the curtain," feeling that we have only done our duty in directing attention to a case which reflects so little credit on the parties, and at once shows the abuse of the true Cost-book System, by introducing a fictitious subsitute.

In the Court of Exchequer, on Wednesday last, an action was tried, in which the plaintiff, named PEARCE, sued the directors of the Great Western Railway Company for compensation, in consequence of receiving most serious personal injuries from the alleged negligence of defendants' servants. It arose out of the accident on the 10th May last, when the train, going at the rate of 60 miles an hour, dashed into a cattle truck, which had been carelessly left across the line, through the driver seeing the signal "all right" exhibited; and by which collision 30 persons were thrown out, five or six killed, and the plaintiff, who was valet to a gentleman of fortune, named BECKWITH, among others, severely injured; he was so much lacerated and disfigured, that his own master did not know him; one leg was broken, the right elbow joint fractured, a piece of flesh torn from one knee, and the other severely bruised; one eye was lost, and the other so injured that it was yet feared the sight of that could not be maintained. After this dreadful state of suffering, by which he was rendered a cripple for life, and his constitution so broken up as to render him unable to follow any profitable occupation, by which to obtain a living, the company, without denying the double carelessness of their servants—the porter, for leaving the truck on the line, and the policeman, for continuing the signal of safety when imminent danger existed—have the heartlessness and temerity to oppose the plaintiff's just demand for compensation, and defend the action, on the grounds that, if they procured the best servants that could be obtained, they were not answerable to the public for any isolated act of carelessness. A more ridiculous and unreasonable view of the case could not have been taken by defendants' counsel; but he was employed in an unthankful office, and, we suppose, scarcely knew what line of defence to adopt; and, we are happy to say, the jury gave a lesson to these leviathan companies—that the lives and limbs of their passengers are not to be tampered with with impunity—by returning a verdict for the plaintiff, with 750*l.* damages. Had the company nobly come forward in so extreme a case, and purchased an annuity for the poor crippled individual, they would have been considerable gainers, and have placed themselves in better odour with the public.

## IMPROVEMENTS IN TREATING LEAD ORES.

[Specification of patent granted to William Young, plumber, and Henry Burgess, engineer, both of Barnstaple, Devon, for improvments in smelting and refining lead ores.]

These improvements relate to the condensation of the vapours which escape from the furnaces employed in the manufacture of lead from ore, the object being to obtain therefrom the litharge and other oxides, which are carried off mixed with the products of combustion. For this purpose, the patentees first cause the flue from the furnace to pass through a steam-boiler flue, so that the waste heat may be used in generating steam; the flue then opens into a fan, by which the vapours are projected down the surface of a large closed tank of water. A great portion of the metallic compound is then mixed with the water. The vapours next pass from the top of this tank into another flue, into which there is projected a strong jet of high-pressure steam from the boiler above mentioned. The combined steam and vapours are then made to pass successively through a series of chambers, the opening from the one to the other being through finely perforated plates of metal. The gravity of the particles of oxide is increased by the steam, and they collect upon the floors of the chambers. Connected with the large tank of water there is a smaller cistern placed outside, by which the height of the water inside the chamber is regulated, and, consequently, the distance of the surface of the water in the tank from the mouth of the descending flue can be readily ascertained, and the pressure be regulated accordingly. The patentees claim—1. The employment of a water lute, into which may be regulated by raising, or lowering, the water in the cistern, whereby the draught will be regulated, and an economy of fuel effected.—2. The causing the metallic particles, which escape from the furnace along with the smoke, to pass through water, and then through finely perforated plates into vaults filled with steam; the condensation and collection of the metallic particles.—3. Applying these processes in the smeltiong of lead, for collecting white and blue oxide of lead in a paste.—4. Causing the metallic particles, if any, which may remain with the smoke after the second process, to pass through the body of the furnace, and again to undergo that process; a complete collection af the metallic particles.—*Mechanics' Magazine.*

## THE ELECTRIC LIGHT—M. LE MOLT'S VOLTAIC BATTERY.

*[Continued from last week's Mining Journal.]*

METALLIC GALVANISATION OF THE CARBON ELEMENT.—I then attempted to apply on one of the upper surfaces of the carbon element a plate of platina, and to connect them by pressure with a metallic fastening. The result was, undoubtedly, less objectionable; the platina was not attacked, but the fastening was oxidised just as before. The idea now occurred to me to deposit on the upper surfaces of the carbon a layer, more or less thick, of reduced copper by the electrotype process (*revivification electroplastique*), establishing thus between this element and the reduced metal an atomic contact of the strictest adhesion, which has been adjudged by some illustrious English and French *savants* to be a cardinal improvement, as enabling us at present to render available, as the first electro-negative element of the pile, a substance the most energetic and least destructible, and one of the cheapest articles we can obtain for the purpose.

METALLIC ANSE.—It was equally necessary to bind together, in the closest contact, the two elements, carbon and zinc; for which purpose I employed a strip, or band, of a curvilinear form (*forme d'anse*), and soldered the extremities—one to two surfaces of the metallic coating on the carbon, and the other to one of the surfaces of the zinc; thus the voltaic pair, composed of the two elements, with their connection, formed a single piece, without any moveable fastenings. There was no further obstruction to the circulation, through the elements and conductors of the battery, of a free, equal, and continuous current; and the object of my investigation, which I so long pursued, seemed thenceforth accomplished.

COATING WITH VARNISH THE INACTIVE SURFACES OF THE ELECTRO-POSITIVE ELEMENT.—In all the energetic batteries in use, and particularly those of Grove and Smee,* I have always observed that the unemployed surface of the zinc element was in nowise preserved from the corrosive action of the acid. To remedy this serious omission in my new couple, I proposed to lay on the neutral surfaces one or more coats of a resinous or other varnish, to resist the action of the acids more or less extensive in its effects—a precaution I consider of the greatest importance. For, first admitting that of the two surfaces immerged in the acid, there is only one in action—that is to say, the one which is in the relation of influence and radiation with the element of the contrary name—we establish the fact that, if the acid attack at the same time both the active and neuter surfaces of the zinc, this element will be by half the more rapidly consumed, without gaining anything in intensity of current, and also that the acid solution will be to the same extent altered. Therefore, the duration of effect will be reduced one-half, with an augmentation of one-half in the expense of the zinc, acid, and amalgamated mercury. These considerations of economy and duration ought, as it appears to me, in all practical objects of utility to be points of paramount appreciation.

As the consequence of the foregoing, I believe that, in the actual state of our progress, it is in my power to offer to experimenting practitioners (and that in a form the simplest and easiest for manipulation) the surest, most economical, and, at the same time, the most energetic voltaic pair which has existed up to the present time—a pair, one of whose elements is indestructible, and throughout whose parts the electric current can move and circulate in the amplest manner, with the most perfect freedom, and without the slightest interruption.

The acids of which I ordinarily make use, are the nitric acid of commerce and sulphuric acid, diluted with eight parts water. The nitric acid, in which I plunge the carbon element, is contained in a cylindrical vase of porous earthenware, immerged itself in the diluted sulphuric acid, contained in a jar of common stoneware; and in the midst of the solution is plunged the zinc element in the form of a hollow cylinder.

The total amount of the active surfaces of my carbon and zinc pair is 48 square inches. In my experiment of the electric light, made on the 8th of December last, from the Duke of York's column, my battery was composed of 78 pairs—total surface, 26 square feet. A battery for intensity of 64 pairs will occupy a superficies of a square *mètre*, or a little more than 3 square feet.

Now that it appears some attempts have been made to revert to further trials of the perfluence of the conducting acids, for the purpose of renovating and keeping them at an equal degree of energy in their current, I wish to communicate to those practitioners who do not seem to have divined all the objections and difficulties in the practice of that system, a much more simple and less complicated means of regulating the strength of the action, which by no means requires the renovation of the acids in the jars, or troughs. It consists in fixing the pairs of the battery on a suspended frame, moving, for example, by a pulley, so as to be able to lower them into the acids to any desired extent. Let us suppose that in a given time, an experiment, for instance, of four hours, the acids will lose a third of their strength. In this case we may lower the elements in the acids, so as to submerge at first only two-thirds of their effective surfaces, and in proportion to the *deconcentration* of the acid (which will be indicated by a regulating electrometer, traversed by the current), we must lower the frame. In multiplying thus successively the actively conductive surfaces of the elements, we compensate for a progressive diminution in the strength of the acids. *[To be continued.]*

* We believe this to be an error on the part of M. Le Molt. We have seen batteries with their neutral surfaces varnished; and we have ascertained that it is a frequent, though not a common practice, so to protect them against corrosion, although some manipulators hold that a very insignificant, if any, loss is the result of the omission.

## HIGH-PRESSURE STEAM VENTILATION.

On Wednesday last, about 40 Members of Parliament attended at the Polytechnic Institution, agreeable to an appointment made by some influential Members of the late and present Government, to inquire into the principle of application of Mr. Gurney's system for the ventilation of coal mines by high-pressure steam. The Polytechnic Institution was selected on account of the hydro-electric steam apparatus, from which high-pressure steam might be obtained for experiment, and was closed to the public for that purpose.

Dr. BACHHOFFNER demonstrated the principle of producing currents of air by the steam-jet, in a series of very interesting experiments, beautifully illustrative of the maxim, "that the toys of boyhood are the tools of men," beginning with some simple experiments demonstrating the principle of the action of high-pressure steam in ventilation, and ending with one showing the absolute power of this stupendous agent to the clearing of the largest coal mine in England in five minutes. Dr. Bachhoffner said, notwithstanding he had had his attention called to the subject for some time, yet so great was the difficulty of understanding the action of high-pressure steam, as a motive power for ventilation, that he might be said to have but a glimmering into its *rationale*; and, as Mr. Gurney was present, he would beg him more clearly to explain it, in con-

A long and very interesting discussion now took place. In the course of conversation, and answers to questions, Mr. GURNEY detailed a vast deal of interesting information connected with the history and application of high-pressure ventilation. His first experiments on this subject were made when a schoolboy, spending his Christmas holidays with the late Mr. Davies Gilbert, in 1810, where he became acquainted with Trevithick, the inventor of the high-pressure steam-engine; this acquaintance led to his (Mr. Gurney's) experiments on locomotion, and ultimate application of high-pressure steam to connection with the subject before them.

cure a draft up the chimney of steam-carriages on common roads, in 1826.

It will be in the recollection of some of our readers that this carriage propelled itself from London to Bath, and returned over the turnpike-road, from Bath to London, the next day, making the journey in 12 hours. Turnpike trusts foolishly interfered, the experiments were stopped, and railways were the consequence.

Mr. GURNEY said: its application to locomotive engines on railways followed; and it was to this draft, and to this alone, the life and soul of the engine was due. Without this application of the principle now used in coal mines, railways never would have been made; the same principle, however, when carried into coal mine ventilation, required modification to meet the conditions of the mine. The modification essential to success was pointed out in the *Report of the South Shields Committee*, published in 1843. Mr. Forster, the extensive and scientific viewer, of Newcastle, whose letter was published, had referred to that report, after seeing some experiments in the Polytechnic Institution, and had succeeded in his application.

Mr. Gurney demonstrated, by a simple experiment, that a current of air, by high-pressure steam, might be kept up at any rate, or for any length of time, as a constant quantity, or might be increased or diminished at pleasure. To the apparatus which he used in the experiment, he attached a mercurial gauge, and showed by the height of the column the force produced, and the degree of current indicated. Extraordinary as it may appear to those unacquainted with the fact, the mercury rose when the full current was on to 19 in.! Now, it may be well for us here to observe, that a current of air, moving at the rate of 80 miles per hour, only gives a pressure equal to half an inch of mercury; 60 miles per hour is a violent storm; 80 miles per hour is the rate of a hurricane, only known in the West Indies. Here was a power of current equal to 19 in., or 38 times that rate of current! When the pressure of the current was applied to water, it rose a column instantly, which, he stated, if there had been height in the room, would raise to 20 ft.! He (Mr. Gurney) observed, this was an experiment only to show the extreme range of power; it might be regulated to any given quantity—down to almost an insensible current, and there fixed at pleasure. He fixed it at a ¼-in. of mercurial gauge; then to ½ in., 1 in., 2 in., 6 in., and gradually to every degree on a graduated scale. It was adjusted, at a given degree, and kept steady to the points without variation—in short, to whatever degree the regulator was adjusted, to that degree, and that only, would the current extend.—In answer to a question from Sir Robert Peel, as to the rate of current necessary to secure safety from fire-damp, and protect health from carbonic acid and other impurities, Mr. Gurney said, he thought a current of 12 ft. per second (about 9 miles per hour) would do for ordinary mines. Some required more ventilation than this, where fire-damp was prevalent, particularly in weather when the barometer was low; and, in some mines, 6 to 8 ft. per second would be ample. This amount of ventilation (he said) must be kept up through every gallery. It often happened that a current of 12 miles per hour might be read off in the upcast shaft; when in the galleries the air did not move at a rate exceeding five; because the sum of the areas of the galleries exceeded the area of the upcast shaft in that proportion. In such case, the rate of current up the upcast shaft should be raised to 28 ft. per second; this observation applied to every working part.

In answer to a question from Mr. Cayley, Mr. GURNEY said, three-fourths of the deaths from coal mine explosions arose from choke-damp; in the recent case at Barnsley, only one-third were killed by fire damp, 48 were killed by after-damp; this latter was heavier than the atmosphere, and so difficult to remove, that, in some cases, no one could go into the mine for days. High-pressure ventilation, in full power, would remove it in three minutes.—To a question from a gentleman whom we did not know, respecting the choking up of the air-courses in case of explosion, he (Mr. Gurney) observed, that in no such case was the gallery at the fall hermetically sealed; it was only partially stopped—in short, from whatever part the roof might fall, it would leave an imperfect opening; in such case, the great value of high-pressure ventilation was evident; for, if the fissures and imperfect opening left amounted in the gross to a few inches sectional area, a current of air through them might be induced so great, making up in the intensity what it lost in area, to blow out the mine, certainly sufficient air to render the galleries breathable; he instanced, on this point, the height of mercury then standing in the gauge, and observed that the current the pressure indicated would, through a small opening of 2 in., produce sufficient heat to smelt iron in the largest furnace. This immense blast was shown by Dr. Bachhoffner, and in a moment, at will, he reduced it to a current, moving only at the rate of 2 miles per hour, at which it was fixed.

In answer to a question by Sir James Graham, as to the expense of high-pressure ventilation, he observed it was the cheapest possible, and simple in its construction; that for 5*l.*, if a boiler was on, or near the mine, the apparatus might be fitted. He had no interest whatever in the subject, it was open to the public; it was given in his evidence in 1835, and any one might use it that liked.—In answer to a question from the Marquis of Landsdowne, Mr. GURNEY observed, that a given arrangement was essential to success, and referred to the details in Mr. Mather's *Report of the South Shields Committee*.

Sir CHARLES LEMON inquired, whether it was necessary that the apparatus should be in the upcast-shaft?—Mr. GURNEY observed, that a horizontal gallery on the surface of the earth, connected with the shaft, would act equally well, and as there was no obstruction in the working of cages and buckets up and down the shaft in which the steam was used, the horizontal gallery was an expense that might be saved.

In answer to a question from Mr. Hume, Mr. GURNEY said, instead of dying in five minutes, as the passengers did in the steamboat going to Ireland, or in five hours, as the soldiers did in the black hole of Calcutta, the colliers were 30 years about it; there was no question that the impure air and want of proper ventilation, fearfully affected their health; he remarked at the late colliery explosion at Barnsley, there were but 4 out of the 75 men killed over forty years of age.

Lord ASHLEY, we believe, asked if this system would reduce the number of accidents?—Mr. GURNEY said, with a true and proper ventilation the worst mine might be worked with safety. That amongst the number of persons employed about a mine, and the difficulty of warning them, it would be too much to say an accident would not occur; but with fair management, and proper regulations, he did not see how fire-damp could ever collect to be explosive.

Sir ROBERT PEEL asked if the safety-lamp need be used?—Mr. GURNEY said, except in some cases of blind cuttings, he thought it need not be used.

A great many experiments were now repeated, at the request principally of Lord Lansdowne and Sir Robert Peel. After about two hours the party separated.

Amongst the company present were Earl St. Germans, Marquis of Lansdowne, Sir Robert Peel, Sir James Graham, Sir J. Walmesly, Right Hon. Sydney Herbert, Mr. Joseph Hume, M.P., Lord Ashley, Sir Charles Lemon, Mr. Edward Cayley, M.P., Mr. J. Pendarves, M.P., Admiral Bowles, Admiral Hope, Mr. J. Brotherton, M.P., Mr. C. Forster, M.P., and a number of other gentlemen connected with the Legislature, the Government, and the members of the institution.

THE PATENT DIATONIC FLUTE.—This instrument has now been sometime before the public. On Wednesday we heard it played upon by Mr. R. S. Pratten, at the Exeter Hall concert, and were fully persuaded of the truth of the advantages it claims above all other flutes. The tones are of a beautiful equality throughout, and of a round and full character, whilst the shades of piano and forte seem to be easily produced. Mr. Richardson has done wisely to adopt this instrument, as he now produces twice the body of tone. All those who have played it say that it requires much less exertion. We pronounce this invention, without hesitation, a great acquisition to amateurs in general. Mr. Siccama, the patentee, has written a theory for this instrument, which does the author great credit, and is well worthy the perusal of every flutist.

CULROSS.—The viaduct at Comrie Den, on the Sterling and Dunfermline Railway, the foundation stone of which was laid on the 5th Feb., 1847, was finished on Friday last. The length of this stupendous erection is 424 ft., width 45 ft., and height in centre from the foundation-stone to the top of the cope-stone about 70 ft. It reflects the highest credit on those intrusted with its execution. It is gratifying to record that not a single accident occurred in the course of building the monster bridge.—*Stirling Advertiser.*

# Original Correspondence.

## ELECTRIC CLOCKS.

SIR,—From the number of improvements and patents continually being registered and taken out, in connection with electricity, any additions always become valuable to those engaged in perfecting such inventions. Amongst the many adaptations, the electric clock has been a very ingenious one, though, perhaps, at present, a very useless one—the inconstancy and varied intensity of the power applied to move the pendulum, continually destroying its regularity as a timepiece—variations frequently occurring from this cause to the amount of nearly 20″ a day. Some very curious effects have also shown themselves, in reference to the retarding action of the magnets and current upon the pendulum. Experiment shows that, when both magnets and current are removed the pendulum, in vibrating from a given arc to a quiescent position, required 22′ 17″, mean observation; but a retarding action becomes manifest by the interposition of the magnets, reducing the time to 8′ 8″ mean; and this again became lessened by permitting the current to permeate the coil surrounding the pendulum to 4′ 40,″ showing the interference of a considerable retarding force during the action of the clock—a force, of course, influenced by the variation in quantity and intensity of the current derived from the battery. This cause, added to that of the pendulum receiving a portion of the current during every vibration, produces the irregularity already noticed—the arc of vibration being, of course, accelerated or retarded, in proportion to the impetus and duration of each successive portion of current taken up by the pendulum.

From some very accurate and comprehensive experiments, made over a period of eight months by Mr. G. Appold, during which time the action of the clock, under the influence of a varied battery, was rated by a chronometer, that gentleman was enabled to form a self-adjusting compensation by means of the pendulum, which allowed the current to flow only at such times as was required, and then only in such quantity as became necessary to restore the pendulum to its mean vibration. The adjustment is effected with such delicacy, that the variation of intensity or quantity in the battery has no effect upon the going of the clock—the pendulum in all cases, when not requiring further impulse, swinging free from the action of the current, the break-piece being lifted off and carried over the conuections; but, upon any current requiring to be taken up, it falls short of the carrier, and in proportion as the impulse required, so is the amount of current imparted. In this way, by observation upon a galvanometer, the pendulum may be seen to swing consecutively 10, 12, or more vibrations without receiving additional impulse; while, perhaps, upon the 13th beat, the galvanometer may indicate a small amount of current received. From this it will be readily seen that Mr. Appold's experiments have suggested a most important improvement in the principles of the electric clock; that, wherens formerly the battery and clock were always during each beat in connection for a time with each other, their action is now independent of each other, and united only at such times, and in such quantities, as become necessary for their mutual action—the variable force of the battery being likewise compensated by the amount of sustained contact.

*Hampstead, Feb.* 28. ——— N. J. HOLMES.

## MR. LAKE'S PROPOSED TELEGRAPHIC IMPROVEMENTS.

SIR,—A letter appearing in your last week's Journal, under the title of "Suggestions to Aid in the Improvement of Electric Telegraphs," by Mr. Lake, of Gosport, I take this opportunity of informing Mr. Lake, that the several plans he has proposed are already in extensive operation, and have been, in some instances, so for many years. The insulation of electric currents, by means of gutta percha, is a well-known fact, and, from its remarkable insulatory property, even exceeding that of shellac, has been made available for telegraphic purposes in many ways. Several miles of wire, either on a single or compound series, are now in use upon this plan, in tunnels and underground, throughout the kingdom, and its utility for this purpose is daily extending, by the encasing or twisting the wires thus protected, either with or around a hempen casing; the enormous cost of erection in telegraphic communication is thus cheapened by the removal of all insulation on the line, and the necessity of straining and winding the wires likewise dispensed with, the rope being hung in a simple festoon from pole to pole. The possibility of a submarine telegraph being also a matter of detail in that communication, I may mention that the delay and difficulty at present experienced in that undertaking does not exist in the laying down wire, or in the maintaining a perfect circuit as far as insulation is concerned. I am of opinion that no obstacle of this kind prevents either our crossing the channel, or the still greater distance from Dublin to Holyhead; but one exists in the difficulty of securing an uninterrupted and unbroken circuit. Supposing, for instance, a wire to be laid down safely from Dover to Calais, the action and nature of the bed of the sea would in a little time be to bury it in some places, shift it in others, and also to leave it exposed at other portions. After any accident, therefore, causing a disruption, either by anchors, rocks, or otherwise, it would not only be impossible to recover the wire, but also to discover the particular spot of separation with anything like precision. The most economical plan would be always to abandon the broken and half buried wire, and replace it by another. Here is the true difficulty—the sinking of money in the bed of he ocean. Who can tell how long a wire may last under the sea, and to what casualties it may be exposed under the bosom of the mighty deep? and who wishes to be the first man to fling his money away, even though it be under the "auspices of the Lords of the Admiralty?" The submarine communication we shall yet live to see completed, without the necessity of a conducting wire. Has not Nature herself already completed for the engineer two imperishable wires of different conducting powers from shore to shore—the "briny ocean" and its "solid bed." It remains but for the inexhaustible and fertile genius of man to adapt their varied resistances to his purpose—he has succeeded over a short distance, and science will, ere long, aid him over an extended path. Then we may hope for a continental communication between this kingdom and India. Once complete the submarine link from shore to shore, and such a communication must necessarily follow. But I am decidedly of opinion, that our modern electrical schemers are upon a wrong track, not only with their perishable and unconvertible submarine wires, but also with their exciting sources in the matter of the electric light. I have already stated, through the medium of your Journal, the plain facts connected with the working a battery, and, singular enough, the results there stated were from experiments made with a carbon Bunsen's battery. So much, therefore, for any statement M. Le Molt may print in reference to the duty performed by his Bunsen's battery. The facts I then stated are such as the public can try for themselves, and afterward compare the results with any statement of M. Le Molt's—a practical plan for rendering the voltaic are subservient as a means for public illumination yet remains to be introduced into notice, and, like the submarine rope, will yet, I think, be attained by a very different process from that at present proposed.

But to return to Mr. Lake's communication, where, in another portion, he alludes to lightning conductors. I may remark, that they are at the present time affixed to every post on a line of telegraph, placed upon the opposite side of the post to that supporting the wires; that they are already formed of round iron, No. 8 galvanised wire, projecting 6 in. in a point above the cap of the post, the conductor itself being sunk to a depth of an inch down the side of the post, and finally led into the ground. Neither does Mr. Lake seem to be aware that, in nine cases out of ten, the lightning is attracted by, and strikes, the wires, not the post; damage is more often done to the instrument in connection with the ends of the conducting wires than the posts upon the line, though instances have been brought before me of fractures occurring. Frequently, during a thunder storm, copious convective and disruptive discharges pass through the conductors on the instrument, while those on the line are mostly out of action. In speaking of terrestrial magnetism, Mr. Lake proposes the use of an astatic combination as a means of overcoming the deflection of the needle. Such a combination, however, is altogether useless in this matter; the variation of the needle taking place entirely from an induced magnetic current flowing sometimes from the wire to the earth, and sometimes from the earth to the wire; but, in both cases, the action upon a galvanometer needle is precisely the same as that of an ordinary voltaic current flowing in the same direction; any astatic combination, therefore, becomes subject to the same error as a simple needle. All attempts to remedy this evil have at present been unsuccessful, it being purely a variable magnetic force, and one whenever the action is upon a magnet or galvanometer, requiring a compensation only. The difficulty then has been the arrangement of such an adjustment as shall adapt itself to the variations of the needle, without interrupting the delicacy of the instrument. The two modes adopted at present are the simple movement of the needle stops to either side, as may be required, or the counteracting effects of a small permanent magnet, placed sufficiently near the needle to neutralise its temporary deflection, and bring it to the vertical position—means, both of which are quite inadequate to the frequency and importance of the error. N. J. HOLMES.

*Hampstead, Feb.* 26.

## ON IMPROVEMENTS IN THE ELECTRIC TELEGRAPH.

SIR,—Having paid some attention to the above subject, I shall feel much obliged by your publishing, in the next Number of your Journal, a few observations which I would make in reply to Mr. Lake's letter published in the last Number. First, as regards the plan proposed of covering the suspended wires with a $\frac{1}{16}$th of an inch coating of gutta percha; it appears doubtful, for many reasons, whether this would be advisable. The first question which would arise is, whether the expense would not be far more than would be compensated for by the advantage gained by improved insulation. It is obvious that the cost of the gutta percha covering would be very great; and the next question is, whether the advantage gained would be so great as Mr. Lake supposes. Would not the gutta percha be very quickly worn through at each of the supports by the constant friction caused by the wires being drawn through them, at every change of temperature, by their expansion or contraction, and also by the wear which they would undergo during storms of wind? This would, probably, not be so great if the supports were formed of gutta percha, as proposed by Mr. Lake, and of the form specified in Mr. Reid's patent of Nov. 23, 1847, where the wires would rest upon an edge, so as to reduce the friction; and if the expense of the covering were not too serious an objection, the insulation would be thus rendered very perfect. It has been found of great service to apply a lightning conductor to every post, and not merely at the stretching standards, as formerly. This plan has been adopted, if I am not mistaken, upon the North-Western and all recently erected lines. The conductors are made of *round* wire, of nearly the same size as that used to convey the electricity, and of the same material (galvanised iron); these have the effect of conducting to the earth *all* the atmospherical electricity which would be collected at the posts; and they rise from the centre of the posts, so it is unnecessary to have them double, which would add to the expense. These conductors, though indispensable at the posts, do not have the effect of preventing the atmospheric electricity from collecting in the wires between the posts; this passes along the wires into the coils of the instruments, and produces the deflection and disturbance of the needles, alluded to in Mr. Lake's letter; it is not, therefore, obviated by the employment of pairs of *astatic* needles, as it would be if caused by any terrestrial attraction, or repulsion, which would act upon a "dipping" needle, and upon a single needle suspended in a horizontal position, as in the mariner's compass. An arrangement has been for some time in use upon telegraphic lines, by which the position of the "stops," against which the needles strike when deflected, may be altered, according to the direction in which they are held by the atmospheric electricity. There have lately been proposed improved arrangements for securing the same object. The needles have always been used in pairs—two upon the same axis, with the poles reversed, as in a galvanometer, in order to prevent the *directive* property from affecting their motion. The same object is effected in Mr. Highton's instruments by the employment of a horse-shoe shaped magnet, in which the north and south poles of a single one are brought near together. It may be easily shown that the occasional disturbance of the needles is caused by atmospheric electricity collected in the wires, and not by any terrestrial influence, by simply disconnecting the line wires, when the needles will immediately return to their natural perpendicular position.—G. E. D.: *Feb.* 28.

## THE ELECTRIC LIGHT.

SIR,—As you have circulated much useful information on the subject of the electric light through your valuable columns, allow me to call attention to its present position and prospects in a few brief observations. On the announcement to the world of Mr. Staite's advances towards complete success, which it was publicly held out was just within his reach, expection was at its *acmé*. The formation of a company of wealthy and influential men being advertised, all idea of failure was at an end, and on his puppet-show exhibitions of electric corruscations of great brilliancy from the portico of the National Gallery, and those of a rival patentee in Waterloo-place, the gullible public came to the conclusion that all was as it should be, and that this highly-desirable illumination was about to turn night into day, and supersede all other artificial light, at a cost next to nothing. How far Mr. Staite is answerable for misleading the public is yet to be seen, and I should very much like to hear his explanation on the subject—a concession which, I think, he undoubtedly owes to more interests than one. It now appears to me evident that the whole proceedings have been carried on from motives not of the most disinterested character, and for the purpose of inducing the public to subscribe for shares in the company before the patentee himself knew whether he was successful or not, and whether the purposes for which it was to be formed could ever be carried out. It is quite clear his exhibition of the light was premature, and that he is now at a complete standstill, from inability to render his light continuous. I have not yet seen any names advertised as directors, in whom the public might place some confidence, nor can we suppose that any gentlemen of character and property would lend their names until they fairly saw the invention tested to complete success, and capable of doing all the patentee has claimed for it. From the several specifications of other parties which have appeared in your columns, I believe Mr. Staite approaches nearest to success; but his self-acting apparatus is yet unusually complex and expensive, to an extent which must prevent its application; and until the difficulty can be got over, of keeping the carbon elements at their proper distance by a simple and inexpensive process, the electric light must remain merely a beautiful experimental toy. At present there is something radically wrong at bottom, and I think the public are entitled to a full explanation from Mr. Staite, and which he will give, if he wishes his character free from suspicion.

*Newington, Feb.* 27. ——— E. L.

## ON THE USE OF THE ELECTRIC LIGHT IN COAL MINES.

SIR,—It has been suggested in your columns of late, that the electric light offers a most desirable medium for lighting our coal mines, by the freedom from danger which it insures when in contact with explosive gas. Now, I am quite willing to concede, that this great advantage might result from the use of this light; but I also fear that other evils would arise from its adoption, which would more than outweigh the benefit thus obtained. It must not be forgotton that, with the lights at present in use in our mines, the *approach*, as also the *actual presence* of danger, is indicated; and I apprehend that this most useful and important fact to the working miner would be concealed from his observation by the light produced from electricity. Experience has fully proved, that an individual may breathe and work for some time in air highly charged with inflammable gas; but I conceive, were he to remain long in an atmosphere where his lamp would explode internally, his life would become endangered, or, at least, his health might be most injuriously affected. When the miner is *now* placed in such a situation as this, his faithful Davy gives timely alarm, and he prudently withdraws from such a probable source of disease or death; but were his monitor removed, where must he look *in future* for the protection he needs? Again, when exposed to the deadly influence of black damp, or carbonic acid gas, so freely generated in our mines, the difficulty which the miner finds in maintaining his light from the want of the proper supply of oxygen, enables him to mark and avoid the dangers resulting from this source of evil; but with a light unaffected under such circumstances, where would be his security? Certainly not in such an *ignus fatus* guardian as the electric light would then prove, as it would only, in too many instances, lure its hapless follower to certain death. I fear, therefore, that by the adoption of this light in our mines, we should only be avoiding the present *known* Scylla of mining dangers, to rush upon an opposite Charybdis of *undefined* evils; and methinks it were better to fight with an enemy whose tactics we are already well acquainted with, than to raise up a new foe, whose weapons, from their very insidiousness and novelty, it might be more difficult to deal with. There are, I conceive, two great desideratums required in mining operations—first, a more perfect system of ventilation; and, secondly, a *thoroughly safe light*, far in advance in illuminating powers to the murky glimmerings of the common Davy. Perhaps some of your scientific correspondents would give their opinions, whether such a light is attainable by the use of an internal glass cone inside the common Davy lamp, on the principle of the solar lamp, having rings of wire gauze in the air tube beneath the flame, to guard against downward explosion. I observe, in your "Notices to Correspondents," that you designate Mr. Rogers's new plan of ventilation "simple and practicable." To this opinion, I must still demur, and assert, on the contrary, that it is both complex and impraticable for any useful purpose; and, in proof of its utter inefficiency, will give an instance, founded on Mr. Wood's evidence, taken at the late inquest in Yorkshire. Mr. Wood there stated, that the quantity of air required to ventilate certain mines in the north, was from 30,000 to 40,000 cubic feet per minute. Now, to pass this quantity of air through Mr. Rogers's wheezing bellow's pipe, would require upwards of *four hours!* travelling at the rate of 5 ft. per second, which is the speed of a brisk working current. Surely, further proof of the folly and inutility of this scheme is unnecessary to convince the most obtuse supporters of such an absurdity.

*Kilburne, Feb.* 27. ——— THE BLACK DIAMOND.

## LOSS OF LIFE IN MINES.

SIR,—I beg to send you the following suggestion, which, if you deem it worthy of a place in your Journal, might be instrumental in calling the attention of some of your scientific correspondents to a subject which, of late in particular, has excited a most painful and deeply absorbing interest in the minds of many, and elicit a means for prevention of future catastrophes of the same kind—namely, the dreadful accidents and fearful loss of life by the explosion or combustion of inflammable gas, from its coming in contact with, and being ignited by, the lamps or candles used to light mines. There is really now no excuse for not using what must be considered the best of all artificial lights—that produced from the voltaic battery, especially as such batteries have been so much improved in their power of self-sustaining a continuous light, for which patents have been obtained by several highly scientific gentlemen.

The great reason for recommending the use of lighting-up mines by the electric process is its power to illumine when immersed in water quite as effectively as when out of that medium. Any number of lamps (glass globes filled with water) can be illumined from such batteries as above alluded to, sufficient to light up the most extensive mine most thoroughly and efficiently for all the purposes of mining operations, and, it is thought, more economically than by any other mode. It will be seen that, by this system of lighting, the possibility of combustion of gas by ignition is totally precluded, the light being immersed in water, and therefore incapable of igniting.

I offer the above, believing the suggestion capable of being improved to the fullest extent, and I have no doubt that among your correspondents one might be found to take an interest in this subject, whereby safety might be insured to so many of our fellow-creatures whose lives are spent in the bowels of the earth. Every other mode of lighting requires oxygen for its support; but this can be produced *in vacuo*, or in water—thus not consuming that of which, even at the best of times, there is so little to spare in mines—namely, pure life-giving air. EMANUEL DOMMETT.

*Red Lion-square, Feb.* 27.

## HIGH-PRESSURE STEAM VENTILATION.

SIR,—In your Journal of the 27th Jan., there is a letter from Mr. Richardson on this subject. I beg to inform him and your readers who may feel any interest in the matter, that Mr. Gurney's first experiments on this subject were made so long ago as 1822, and published in 1826 (see Report of the Lords), six years before Mr. Stewart's experiment is said to have been made. Mr. Gurney more fully detailed the system in his evidence before the House of Commons, in 1835, which Mr. Richardson evidently supposes to be its first publication. The experiment of Mr. Stewart seems to be the same as that of Mons. Gonot, in Belgium, who made so great a mistake in its application. (See South Shields Report on Accidents in Mines.)—CHARLES K. VACY, M.D.: *Launceston, Cornwall, Feb.* 28.

## VENTILATION OF COAL MINES.

SIR,—As I know your columns are always open to the discussions of any subject of public utility, I hope you will allow me space for the following remarks. The general outcry now appears to be for Government inspectors of coal mines; and certainly, if their appointment will lessen or prevent the loss of life which so often happens—"it is a consummation devoutly to be wished." As a private individual, I must be allowed to freely express my opinion, that the appointment of Government inspectors will not prevent explosions in coal mines; while, at the same time, I frankly admit, that they may have the effect of better satisfying the public mind on the subject, by giving an uninterested report, from daily personal observation. I arrive at this conclusion from experience of the past. Have Government railway inspectors prevented loss of life in any one instance? *Can* any inspector prevent the breaking of a rail or an axle, or the negligence of engine-drivers and pointsmen? Certainly not, neither can they prevent the many unforeseen casualties which may derange the ventilation of a coal mine. Explosions in collieries rarely proceed from *general* bad ventilation—at least, what have come under my observation have occurred from a failure in some of the details, or from the recklessness of the workmen themselves. To illustrate my meaning more fully, I shall briefly notice the systems of working coal most generally used. The long wall system pursued in Staffordshire, Yorkshire, &c., consists in the coal being worked completely out, for a breadth varying according to circumstances, the vacuity behind being filled up with any refuse most readily to be got. Now, it is evident that such loose materials cannot be put in so compact and close as the coal originally was. The roof, therefore, settles down, cracks and vacancies are formed in the upper strata, making at once a receptacle for gas, a sudden atmospheric change takes place, the gas rushes out, and if in sufficient quantities to render the mine explosive, the result on coming in contact with a light, is to be found in the Darley Main explosion. The Newcastle system consists in passages being cut into the solid coal—pillers of coal, poled though at convenient distances, being left for the support of the roof. In many collieries in that district, such is the quantity of gas emitted, that these passages cannot be driven a single yard before air—that is, the air must be confined right up to the face of the working place. In such a case, the neglect of a door for a short time, so as to direct the column of air from a district of workings, is sufficient to render that part of the mine explosive. Instance the Willington explosion, and a great many others. Strong jets of gas also occasionally break out, with such force as to defy for a time any ventilation to overpower them—a case in point, the Killingworth explosion. In working the pillows, the roof falls, and it is impossible to ventilate the worked out part of the mine; and, although safety-lamps be used exclusively in that vicinity, yet the lamp may get broken, and the consequence is seen in the Haswell explosion. The system principally followed in South Wales is in passages being driven in the coal, as at Newcastle, but with a greater distance between the holings from one to another; and, after the passage is driven its distance, most part of the pillar of coal is worked out. In that district, generally speaking, the quantity of gas is not great—the most being met with in driving the exploratory passages into the solid coal; still there is sufficient in most cases to cause disastrous consequences, if the ventilation be deranged or neglected. The same casualities are liable to be met with in every district; and, being unforeseen, my argument is, that Government inspectors will not be able to prevent them. It may be asked, why not use safety-lamps only? If the coal required blasting with powder, a naked light must be used, or the mine abandoned; and, although safety-lamps are most valuable for trying the state of the mine, I am not aware that explosions have been less frequent by their introduction into general use in working. Having already trespassed upon your space, I must defer a few further remarks until next week.

*Feb.* 28. ——— A NEWCASTLE COLLIER.

## SMELTING OF COPPER ORES—ELECTRICITY.

SIR,—Amongst your Notices to Correspondents, in the Journal of the 24th inst., I read—"'A Subscriber' writes—It is said to have been discovered, in South Australia, that the efficacy of Napier's process for smelting copper ores is not produced by the action of electricity. If so: *query*, as to the validity of the patent, on the ground of misdescription in the specification." I had myself long entertained the idea that electricity could have no action upon iron, or other metals, at a high heat, nor in the reduction of copper ores. In this I was confirmed after reading a series of papers which appeared in your useful and valuable Journal some time ago. I have not an opportunity just now of referring to ascertain the time, but think it may be about two years since. These papers gave a description of experiments conducted by two French chemists to determine the efficacy of a plan for smelting copper by electricity. These experiments seem to have been conducted with much nicety, care, and attention; copper was produced in a state of great purity, but just in proportion to the quantity of iron wasted. I watched this with much interest, and felt satisfied that electricity had nothing at all to do with the production of the copper, but that it was simply the result of chemical action, iron having a more powerful attraction for sulphur than copper has—just on the well-known principle of the separation of copper from a solution of sulphate of copper, by the immersion of iron in it; sulphate of iron forms, and copper is precipitated. The smelting of copper ores may become an exceedingly simple affair by attention to chemical affinities; carbonates may be reduced by lime, oxides by carbon, sulphates and sulphurets by iron, &c.;

any ore may be smelted by itself, the requisite degree of fusibility being obtained by the addition of a due proportion of some cheap material, as lime, sand, clay, oxide of iron, &c.

I have contrived a furnace with an arrangement for continuous feeding, the separation of the fused matter from the unfused, its collection in a separate bed, where the copper will settle down to the lowest point, to be tapped off from time to time, and the slag kept flowing off—thus avoiding the awkward and uncertain operation of skimming.

Much discussion has appeared in the columns of the *Mining Journal* upon the probable consequences of the formation of a new smelting company, to assist the mining interests. I do not see any difficulty in carrying out the principles professed by the English Copper Company upon its formation. Their splendid smelting establishment in Cwm Avon is now vacant. Could not an arrangement be entered into with the Bank of England to take these copper-works on lease, with a clause to supply the coal required on equitable terms, and a guarantee that any future purchaser of the entire property should fulfil these conditions? A large smelting-work might thus be established with a moderate capital. I know nothing of the mysteries of mining, nor of the commercial part of the copper trade; I feel desirous merely of assisting in the carrying out of an improved system of smelting.—T. H. Leighton: *Feb.* 27.

## MANUFACTURE OF IRON.

Sir,—Upon my first introduction to the iron-works in South Wales, I was one day at the top of a blast-furnace with a party of gentlemen, amongst whom was the manager, represented to me as a most extraordinarily clever chemist. On this account, I felt a little diffidence in giving an opinion; but being asked by a gentleman what I considered the flame to be, I answered, without hesitation, "carbonic oxide." He seemed surprised, and repeated it to the manager, saying—"What do you think of that?" The other, at first, put on a supercilious smile, and then turning to me, face to face, said, with great dignity—"I should think, Sir, we know too well what we are about to allow carbonic oxide to form in our furnaces." I thought to myself, how the deuce are you to prevent it? I found, subsequently, that the existence of carbonic oxide, as a combustible gas, was pretty generally unknown to the parties engaged in the manufacture of iron. It has since occurred to me, that the great height to which blast-furnaces have been carried—as high as 60 ft. to 70 ft.—and the enormous power required to work such immense masses of materials, have originated from the mistaken notion, that the flame, appearing at the top of a furnace, was part of a continuous flame, passing from the tuyeres throughout the whole extent of the furnace, and was thus considered a loss of heat. The furnace was raised to save this, but still flame appeared; and the furnace was raised again and again. I am induced to make these remarks in consequence of reading two letters in the *Mining Journal* lately—one from Mr. Robert Mushet, the other with the signature of "An Ironmaker of the Third Generation"—both referring to Mr. Yates's proceedings in Derbyshire. I am much inclined to coincide with Mr. Robert Mushet, in his opinions as to the size and working of furnaces; and regret to learn, from the other letter, that Mr. Yates has found it expedient to make some alterations. These, I imagine, may have arisen rather from the difficulties he has encountered with his new rotatory engine, and the management of the fans, than the size and form of his furnaces. A concentrated blast seems to be necessary for the successful working of a furnace—not for the reduction of the ore, and separation of iron, but to keep the hearth clear of ash and small partially consumed fuel. In my opinion, the only object to be aimed at in the smelting-furnace, is the perfect separation of iron from the other matters associated with it in the different ores, without reference to quality. The applications of iron are so various—each requiring some peculiar property—that it seems to me such can only be insured by suitable treatment after the metal leaves the furnace. An opinion seems to prevail very generally, that the only state in which iron exists, in all the various forms of cinder, is that of a silicate. If this is the case, the remedy for so much waste of iron would be the use of a larger proportion of the poorer ores, which usually abound in alumina; or, if these are not to be had, an addition of clay would answer the purpose. I have, upon some former occasion, broached the idea, that in these compounds, under the general term cinder, carbon might be mistaken for silica. If the opinion which I entertain upon this subject, that in many forms of cinder iron exists, chemically combined with both oxygen and carbon, could be fairly established, I imagine that much which has hitherto appeared mysterious and paradoxical in the manufacture and working of iron might be satisfactorily accounted for. The cinder, or slag, from a blast-furnace should be an opaque mass of fused porcelain—merely the earths, silica, alumina, and lime; if it is a transparent glass, iron, or some metallic oxide, must be present. Black scouring cinder, besides the earths, no doubt contains iron at a low state of oxidation, with a large proportion of carbon; a dark transparent glass, the same, with less carbon; but possibly a very light coloured and transparent cinder, may contain pure silicate of iron. I have long entertained the opinion, that too little attention has been bestowed upon the calcination of the mine or ore—that it should not be done in contact with solid carbon, nor even confined in an atmosphere of carbonic oxide. At the top of a blast-furnace it is exposed to these with moderate heat—so that, if calcination is really necessary, something more is required, and that is, no doubt, oxygen. The gas burning at the top of a furnace, where it meets fresh air, could be most advantageously applied to the calcination of mine, with the additional benefit of being passed hot from the calciner into the furnace. When mine fuses in calcining kilns, or clamps, as it is sure to do occasionally, exposed as they are to the variations of the weather and wind, it seems to me that the iron must become predisposed to form cinder. Mine calcined by burning gases is perfectly clean, free from any appearance of fusion, and of a light red colour universally throughout, very different to the variegated dusty mass from the ordinary calciners. In conclusion, I take the liberty of putting a query to "An Ironmaker of the Third Generation"—Do you ever find furnaces work better than when you allow them to run down previously to blowing out, showing that they work more freely as the bulk of materials diminishes? T. H. Leighton.

*Feb.* 24.

## MANUFACTURE OF IRON—Mr. MUSHET'S DISCOVERIES.

Sir,—I cannot permit it to be supposed that my late father attempted at any time to detract from the merit of any improvements in the manufacture of iron. His knowledge of the whole subject was too extensive and accurate to permit of his mistaking the facts, and his own discoveries quite numerous enough to render unnecessary the narrowness, had it been in his disposition, of contesting the claims of others. Mr. Anthony Hill knew my father too well to require any such assurance; but to strangers, and to myself, as his son, it is due not to sanction by silence a species of attacks which he would especially have disapproved. Mr. Hill not only had a patent for his use of lime in the puddling-furnace; but in (I believe) his last trial, under writ of *scire facias* for infringement of that patent, about the year 1815, my father himself was a principal witness in establishing the validity and originality of Mr. Hill's claim. The successful use of refinery cinders in the blast-furnace was also, I believe, patented; and, though it is many years since, I have a distinct recollection of my father attributing the sole and great merit of the application to Mr. Hill. Mr. Hill may have derived the hint from my father, or from his writings, because the principles he only laid down as to the combinations of oxide of iron, and the means of modifying their effects, undoubtedly gave practical men plain facts to grapple with, instead of those phantoms to which, in the infancy of this and every science, results are vaguely attributed. But the very objects of these writings was to disseminate true principles, and lay them open to every one who had intelligence to adopt them. My father was the last man to indulge in the perversity of condemning the use of what he offered to the public, or to detract from the merit of those who developed his own principles. I may be mistaken, but it is my impression, that Mr. Hill's successful management of the most incorrigible product of the manufacture encouraged my father to a series of experiments on other cinders and copper slags, which he followed up for many years, and took several patents for. It is just also to add, with respect to the patent process for using ores of iron in the puddling-furnace, that I have heard my father express his admiration of Mr. Hill's improvements in it. I do not understand this declamation about my father's merits not being acknowledged. His reputation was very extensive; and I have always found in every quarter, often very unexpectedly, the fullest allowance of his scientific claims. I do not know the use of discoveries if no one is to adopt them; nor how every one can be employed in sounding the praises of every eminent individual. My father's ruling quality was a prudential caution, through which he never would incur any risk by prosecuting his inventions—preferring the safer rule of endeavouring to induce others to carry them out. If this incurred some disappointment—for it is not every patent in a 100 years which is capable of that facility of adaptation which distinguished the invention of heated air—and deprived him of that palpable reputation which arises when a man can lay his finger on a process, and say this and this have I done, and taught others to do, yet he avoided the fate of Cort and other inventors, who staked all upon their ideas, and perished in their victory. A strict adherence to this inflexible caution preserved my father from great losses, and often from vast pecuniary opportunities, which were obvious to a bolder grasp. But whose business is it to see to that? As yet there is no such modern appointment as a public remunerator. It was not in my father's disposition to hunt himself into those testimonials which we have seen especially appropriated to quacks. He had no relish for seeing the stream of life stirred into continual turbidity around him, or for living under the blasts of a continual trumpet; and it is a sad grievance that his ashes should be subjected to the process. But I must yet hope to see my youngest brother (Mr. Robert Mushet) arriving at years of discretion. It will then be as gratifying to his relatives, as it cannot but be disagreeable to any one who knew my father, to hear the discords of his incessant instrument tempered with that amenity which is always attendant on capacity, and was eminently my late father's characteristic. As to Mr. Yates's arrangements, I was aware, more than a year ago, that they had not answered his expectations. The greatest improver of the blast-furnace, in late times, is Mr. John Gibbons; and it is only in strict accordance with the principles he developed, that further improvements, if possible, can be made.

*Feb.* 19. David Mushet.

## GERMINATION OF SEEDS UNDER COLOURED GLASS.

Sir,—Mr. Hunt's researches on the germination of seeds and growth of plants, under coloured glass, are before the public. I have tried the germination of seeds under violet-coloured glass; but the result of my experiments were equivocal. I instituted these before Mr. Hunt began the inquiry, and in consequence of what was communicated to me at Rome, by Signors Brocchi and Morrichini, who informed me of the experiments then in progress by the professor of botany there, who had found the growth of plants certainly promoted under violet glass. I shall have a series of experiments instituted this summer with reference to this very curious question. There can be no doubt that the subject originated with the Roman professor in 1818. I like Mr. Hunt's views very much, in what I may be allowed to call the harmony of colours in relation to the Flora of the seasons, and it is in entire keeping with what I have elsewhere called the geographical distribution of colour in the vegetable kingdom.

*Portland-place, Hull, Feb.* 27. J. Murray.

## GUN-COTTON.

Sir,—When Mr. Horsley and I made some experiments with gun-cotton and its relative degree of ignition, we were startled to find that it was consumed or exploded in these experiments at a temperature *minus* 90° Fah. Under the peculiar circumstances in which the experiments were made, these unexpected results surprised us, and we could not in any way account for the unlooked-for phenomenon. Since that period, however, the French *savans* have corroborated our experiments, and Dr. O'Shaughnessy, in the East Indies, still further confirmed the precarious and mysterious uncertainty which attends the ignition of gun-cotton. On spreading the whole to dry in the sunshine, the entire mass was suddenly consumed.

When gun-cotton is steeped in a solution of chlorate of potassa, as Mr. Horsely has shown me, its igniting and explosive power is very much enhanced. A short time ago, a quantity of gun-cotton suddenly exploded at Mr. Hall's manufactory, near Faversham, on being merely brought into the open air—so entirely mysterious is this intractable material. It has been stated that gun-cotton was employed by our Indian army in the recent siege of Mooltan, with what truth I know not; but I believe that Mr. Hall did manufacture a considerable quantity, *sub rosa*, for Government. You will remember that, in your pages, I denounced its manufacture as incompatible with public safety; but a very captious correspondent in the *Mining Journal* blamed me for the opinion. It appears, however, that Mr. Hall is now so convinced of the danger incurred in the manufacture, and the perilous nature of the enterprise, that he has entirely, in the most praiseworthy manner, abandoned the manufacture of the gun-cotton, and has immersed not less than a ton of the gun-cotton, equal in explosive force to 13,440 lbs. of gunpowder. But I believe, after immersion for years, it would be just as explosive, when dried, as ever. There appears to me to be one mode of at once destroying it, and rendering it usefully available. I would convert it, while wet, by concentrated sulphuric acid into soluble carbon, which would be invaluable as manure, or might profitably be employed in the manufacture of gunpowder. J. Murray.

*Portland-place, Hull, Feb.* 28.

## STEAM LOCOMOTIVES ON COMMON ROADS—TIMBER TRACKS.

Respected Friend,—Your correspondent, "A Road Locomotive Engineer," states that my reply to him was such an absurd production, that he did not think it worth a line in reply; he, however, has not condescended to point out its absurdities; I must, therefore, leave that to the judgment of your impartial readers, as well also as his assertion that it was only remarkable for abusive language, both of which assertions I consider, contrary to the fact, and that, therefore, he has violated the truth in making them. He then goes on to say, that he never accused Mr. Clarke with possessing the disposition such as I have described. Now, in order that you and your readers may be enabled to judge in the matter, I make the following extracts from his letter in question:—"Mr. Clarke in his report takes a very high ground, thinking, perhaps, there was no one left who knew anything of the progress made 25 years since on this interesting subject, and, after attributing the inventions of former practitioners to Sir J. Anderson, he as much as tells us, 'that they were all fools and knew nothing of the matter'—that is, they are to be robbed of their ideas, and kicked afterwards."—"I will take but a brief notice of the several points; and if Mr. Clarke is not aware of the short facts I shall state, or has the temerity to contradict them, I will give you, in an after communication, which I shall be more at leisure to draw up, facts, dates, and proofs for what I assert, although much of the report is less objectionable for piracy, than for the silly remarks attributing to Sir James Anderson what has been done by everybody connected with all descriptions of steam-engines for many years past."—"It is astonishing how clever some men are in discovering 'mare's nests.'"—"So much for this report, which is anything but creditable to the experience of its author, whom I now inform that I can lay my hand on an old common road locomotive-engine in London, with all the essentials he lays so much stress upon, which with a week's repair, if I had the time to attend to it, I would back in performance against Sir James Anderson's 'spick and span' new one."—"It is palpably evident, from the trashy character and style of phraseology used in drawing up the report in question, that its author is quite out of his element in such an employment, and, moreover, that he must be sadly ignorant of the progress made upwards of a quarter of a century since in the common-road locomotive; and it is this evident want of acquaintance with the subject which surprises me how he could venture to put his name to such a public document? However, he who plays at bowls must expect rubbers, and I caution him to be more circumspect in future."

Your correspondent seems, by his dictatorial manner, anxious to impress the belief that his great experience in engineering matters entitles him to adopt the motto of *ne plus ultra*; I hope, however, a few weeks will prove *plus ultra* there is beyond him.

But, to return; can any man in his sober senses (unless he is a direct or indirect opponent) reasonably draw any other conclusion, than that the author of the foregoing extracts was influenced by improper or disreputable motives, by using such strong and unqualified assertions, and unwarrantable, not to say base, insinuations. He however, states that he had not the least wish in the slightest degree to injure Mr. Clarke. If he had not, he certainly, in my opinion, has a very odd way of showing his friendship, or goodwill, towards another, unless he be an advocate for the brutal system of flogging.

As to his observations on wooden tracks, notwithstanding his profession of *considerable experience*, I trust I shall shortly be enabled to explain the matter to the satisfaction of your respectable and intelligent correspondent, J. Richardson, though, perhaps, not to your dubious correspondent, "Road Locomotive Engineer." I do not dread the phantoms which the fertile brain of the latter has conjured up as formidable objections, whose *considerable experience* might or ought to have informed him, that means could be adopted to prevent the timber tracks from running away with the flood, and thus avoid any melancholy catastrophe which, perhaps, your correspondent may be silly enough to suppose might happen. With respect to obstructions from turnpike trusts, I apprehend if they were disposed so far to accommodate the public, by partially, or wholly, paving the middle of the road with timber, they might do so without requiring an Act of Parliament; and if so, then, if they can get a company to do it, and thereby save them from an outlay for repairs of from 30*l.* to 50*l.* per mile per annum, it can hardly be supposed they would object to it—no Act of Parliament was required to pave with wood the streets in London. As the paving is intended to be flush with the surface of the road, there is nothing to prevent the engine from turning off from the track, passing the slow load, and again resuming the track; so that if your correspondent, or any obstructive individual, were to be so regardless of common civility as not to turn off to oblige the company, or party, who had been at the expense of the convenience of which they were availing themselves, still much time would not be lost, owing to their selfish, and, I may add, unjustifiable conduct. Your correspondent acknowledges that it is rather inconvenient to give his name, but why not tell us where the very perfect old locomotive road carriage may be seen; but, perhaps, that also may be rather inconvenient. "He who plays at bowls must expect rubbers."

Let not your correspondent fondly imagine that his furious attack of T. Clarke will materially injure or neutralise the important communication made by T. Clarke, which, by a curious coincidance, appeared in the same Journal. I feel confident that Clarke and Varly's atmospheric system is vastly superior, for simplicity, effectiveness, economy, and durability, to any other attempts which have been made, up to the present time, with which I am acquainted, and that all other plans that I have seen have been, or are, complicated and expensive, and will, therefore, be strongly opposed by the powerful principle of L.S.D., and Co.—Thos. Moxley: *London, 2mo.* 27.

P.S.—If your correspondent has been assisted in the composition of his extraordinary letters, perhaps he may one day have occasion to exclaim "save me from my friends." In conclusion, permit me to hope that your readers will excuse me for expressing myself strongly, because I believed, and his last letter (notwithstanding his profession to the contrary) induces me still to believe, that the motive which actuated your correspondent was to injure the rising reputation of a meritorious and talented individual, to whom, for aught I know, he may have become a direct opponent; and hence the inconvenience of giving his name. As to his scurrilous remarks which refer to myself, I regard them not, leaving it to the good sense of your readers to determine whether either of us have deserved the furious and unprovoked attack of your anonymous correspondent; and as truth suffers nothing by rubbing, so I hope we may each survive the shock occasioned by his secret and envious shafts, which, it is possible, may unexpectedly recoil upon himself, or themselves, as the case may be; and thus they may reap the fruits of their own gratuitous temerity and folly, and thereby be induced to be more circumspect in their modes of expression and figures of speech.

## GOLD OF THE UNITED STATES.

Sir,—According to a paragraph, in your last week's Journal, it is stated that the product of the domestic mines of the United States, last year, was $241,554, of which $44,177 were of Californian gold. The writer, doubtless, meant that this amount of gold was *coined* merely at *one* mint—viz.: the Philadelphia Mint. It is necessary to bear this in mind, or we shall be apt to conclude, that the supply of gold in the States is rapidly decreasing, which is far from being the case, since somewhere about thrice that quantity of gold is coined at the three branch mints, as compared with the chief mint at Philadelphia—the three branch mints, in 1843, having coined gold of the domestic mines of the value of $864,717—while only $180,728 were coined at Philadelphia; and the quantity coined since has been in about the same proportion.

Although upwards of a million dollars were coined in 1843, of gold raised in the United States, there cannot be a doubt but that a very considerable quantity besides was converted at once into plate and jewellery—indeed, it would not be too much to say, that more *gold* is raised than is used or consumed in the States, so that they can afford to ship some to other countries; hence there is no doubt but that a *free trade* in the millions of dollars of Californian gold must have an excellent effect upon the trade of this country. That golden discovery can hardly be overvalued, and certainly it comes most opportunely to us, who are only emerging from the disastrous effects of the famine and the railway mania.

*March* 2. William Birkmyre.

## GOVERNMENT INSPECTION OF MINES.

Sir,—The importance of the subject, as regards the public generally will, I trust, be excuse sufficient for my troubling you in this matter. It has for a long time past been but too evident that a very large portion of the loss of life, as well as of property, has been occasioned by the want of proper practical knowledge on the part of those who undertake the management of mines, and shows how very cautious principals should be in throughly investigating the capabilities and sound practical skill of those to be appointed to such important situations. Now, the most likely means of obtaining this desideratum, which the subjects suggests to me, is the appointing an examination, at which those candidates who shall have passed creditably, shall be entitled to a certificate to that effect, stating them to be competent persons to fill the above office. Although this precaution might not meet the whole case, it would, doubtless, prevent many serious accidents which are from time to time occurring; *and, probably, is as far as it would be prudent for Government to interfere with such property.*

*March* 1. A Looker-on.

## IRON MANUFACTURE.

Sir,—Considering the number of letters we are favoured with by Mr. Robert Mushet, through your valuable Journal, he should, by this time, have learnt that small witticism is received as neither proof nor argument; and that an ironmaker would have no difficulty in discovering that one of three blast-furnaces, very like bee-hives, had been taken down, and replaced by one of about double its size, although passing on the North Midland Railway at the rate of 40 miles an hour. With respect to Mr. Booker having visited Mr. Yates's works, one would naturally conclude that the information he obtained on that occasion was far from being true, and that his visit there was prior to the alterations in question. I have not the pleasure of knowing Mr. Booker, and should be sorry to measure his shrewd practicability as an iron manufacturer by the foresight he displayed on his visit to the Wingerworth Iron-Works, where the alterations, as above stated, must have taken place immediately after, as the works are only of about three years' standing. After such a letter as Mr. Yates published in your Journal, some time back, on the advantages to be obtained by the use of his improved method of manufacturing iron, it would have been no more than fair had he (on discovering its failure) have taken the same means of informing the public to that effect. As, however, schemers, in common with many other professors, have a distaste for publishing their recantations, really practical men should be more careful how they assist in misleading the public; for, in this case, it is not likely that men, thoroughly acquainted with the details of manufacturing iron, could be misled, for a moment, by so old a process.

*March* 1. An Ironmaker of the Third Generation

Cunningham and Carter's New System of Railway Propulsion.—It is now upwards of two months since the models of this ingenious application of atmospheric transfer of power, for the purposes of railway transit, have been before the public for their inspection and consideration, at Ingram's, 29, City-road, and has caused greater interest, and been visited by the scientific public to a much greater extent than the patentees, in their most sanguine expectations, could have supposed would be the case. The untoward failure of the longitudinal valve system, both on the Croydon and South Devon lines, gave a shock to the very principle of atmospheric propulsion, which it will, probably, yet take some time to overcome; but it is evident, that whatever prejudices existed, or may still exist among engineers of acknowledged eminence, there is a considerable portion of them who are convinced of the advantages to be derived from the employment of the properties of pneumatics as a medium of the transfer of power to railway purposes, provided the system is carried out by mechanical arrangements founded on true scientific principles. Such we have often contended is the system under notice, embodying, as it does, all the advantages of atmospheric power, without any of the evils so justly complained of as inseparable from the longitudinal valve system. Having on several occasions fully described the mechanical arrangements, it would be superfluous to repeat them here. We will only remark, that the working of the large model has confirmed the opinion we entertained on first viewing the small circular one at Sydenham—that by this system leakage is wholly avoided; not an atom of vacuum power escapes on opening the connection between the exhausted tube and the vacuum engines, but what is applied to the propulsion of the train—that much greater command is obtained over the trains than by the locomotive system, and that a full-size working railway would be found in practice to answer all the essentials of speed, safety, and certainty, in exact proportion as indicated by the model, which is constructed on a scale of 1½ in. to the foot. We are informed that preliminaries are all but settled for the construction of a branch line, which, we believe, will fully confirm the expectations of the patentees, and of many others who have witnessed the performances of the models; and, for all the bad odour into which the atmospheric system has fallen with many, we are yet sanguine enough to expect to see parties who are bold enough to think for themselves, and not adopt a prejudice merely because it is fashionable, step out of the beaten track, and cause this system to be adopted on a scale which will incontestibly prove its superiority, and its general applicability to all railway purposes. From the simplicity of the arrangement of the valves of the double action vacuum engines, they work with the greatest facility; and those of the circular model, which has now been working two years, are in better order than when first constructed, and work absolutely air-tight. The absence of leakage is beautifully shown by the barometer; on obtaining an exhaustion of (say) 28 inches, the engine is stopped, and the mercury will be found perfectly stationary. On passing the train through a pair of vacuum engines, it will be seen to drop to an extent due to the number of strokes of the pistons; on their ceasing work, it instantly comes again to a dead stand, and on passing the remaining engines, the same action is repeated until the vacuum is destroyed. To those who are interested in railways, and have not yet seen the models, they will well repay the trouble of a visit; and when it is considered that the patentees will guarantee the entire current expenses of working a line, including conductors, guards, and men on the road, for 3½*d.* per train per mile, while on the locomotive they are not less than 2*s.* 2*d.* per train per mile, we think there is some inducement for its adoption.

Turnpike Trusts.—A return moved for by Mr. Cornewall Lewis, M.P., shows that the gross total amount of the bonded debt and unpaid interest on the 1102 turnpike trusts in England and North Wales amounts to the sum of 8,051,120*l.*—viz.: 7,804,236*l.* in England, and 246,785*l.* in Wales. The length of road included in these trusts is 21,310 miles. The total receipts amount to 1,358,703*l.*, and the total expenditure to 1,344,252*l.*

Another Proof of the Efficacy of Holloway's Ointment and Pills for the Cure of Bad Legs.—Mrs. Maudeville, of Stretton, suffered for nearly three years with fearful sores on both legs. Notwithstanding the various medicines and treatment of which trial was made, the ulcerations grew worse, and for some months she was unable to stand; at length it was decided that Holloway's ointment and pills should be used, and these excellent medicines soon worked wonders, for in a few weeks all the wounds were healed, and the use of her legs so perfectly restored that she is now able to walk several miles a day with ease. Sold by all vendors of medicines, and at Professor Holloway's establishment, 244, Strand, London.

PASSENGERS' RAILWAY-CARRIAGE SIGNAL.—Since our description, in last week's *Mining Journal*, of Mr. Hattersley's signal to enable passengers to communicate with the guard and engine-driver, in case of accident, sudden illness, robbery, or ill usage, we have had an opportunity of inspecting the model, and hesitate not to state our conviction, that it is the most simple, cheap, and, at the same time, effective, plan for the purpose which has yet been brought under our notice. On pulling the attachment, placed inside each compartment of every carriage, similar to a bell-pull, counter sunk in the wood-work, and being thus safe from injury or destruction by the designing, the lanthorn, or the day signal, instantly rises on the top of the carriage, and cannot fail to attract the attention of the guard, who would immediately see the carriage whence the signal was given; and, on his return, can instantly replace the lamp in its place. They can be applied to every description of carriage, and placed in any position which may be most desirable; while the whole expense is estimated by the patentee, for manufacturing and fixing, not to exceed 30s. each carriage—one signal being available for all the compartments of a carriage; and the cost of maintaining the light, during the hours of darkness, will not exceed 1½d. per 24 hours.

FIRST USE OF GUN-COTTON IN ACTUAL WARFARE.—The *Times* in describing the storming of Moulton, says—"Hereafter, perhaps, it may be an interesting record that the new invention of gun-cotton was employed, for the first time we believe, on this occasion by the Bombay gunners, and the brilliancy and breadth of the flash produced by the explosion was matter of common remark."

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**ROYAL COLLEGE OF CHEMISTRY,**
*OXFORD-STREET, LONDON.*

The PRACTICAL COURSE of INSTRUCTION in this institution is under the direction of Dr. A. W. HOFMANN and assistants.

The NEXT SESSION will commence on WEDNESDAY, the 7th MARCH, and end on TUESDAY, the 31st JULY next.

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| The fee for students, working every day during the session, is | | £15 | 0 0 |
| " " | Four days in the week | 12 | 0 0 |
| " " | Three days " | 10 | 0 0 |
| " " | Two days " | 7 | 0 0 |
| " " | One day " | 5 | 0 0 |

*Hours of Attendance from Nine to Five.* 42

Further particulars may be obtained on application to the secretary.
WILLIAM JOHNSON, Secretary.

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**CWMBRAIN PATENT IRON REFINERY.**—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS,

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith. 43

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

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**BRISTOL AND EXETER RAILWAY.**—At the Half-yearly General Meeting of this company, held at the White Lion Hotel, in the city of Bristol, on Thursday, the 1st of March, 1849,

JAMES W. BULLER, Esq., in the chair, 44

It was unanimously resolved,—

1. That the corporate seal of this company be affixed to the registers of shares and third shares now produced.
2. That the report of the directors, now read, be received and adopted, and that they be requested to send a copy to every registered proprietor.
3. That Messrs. Edward Divett, M.P., Samuel Lucas, and Dr. Patrick Miller, be re-elected directors of this company; and that the remuneration of the directors be £1400 per annum, until the number of the board be further reduced, when a proportionate reduction of the remuneration shall likewise take place.
4. That Mr. Wm. Cross be re-elected an auditor of this company.
5. That a dividend of £1 10s. per whole share, free of income tax, be declared for the half-year ending on the 31st Dec., 1848, payable to the proprietors who stood registered at the closing of the transfer-books on the 19th of February.
6. That this meeting approves and adopts the code of bye-laws at present in use upon the Bristol and Exeter Railway, and now produced.
7. That the corporate seal of this company be affixed to the petition to the House of Commons, now produced, against the present system of assessing railways for parochial rates, and praying for an alteration of the law.
8. That the best thanks of this meeting be given to the directors, for their able and efficient management of the affairs of this company.

JAMES W. BULLER, Chairman.

The chairman having quitted the chair, it was resolved by acclamation,—

9. That the best thanks of this meeting be given to James W. Buller, Esq., for his able and judicious conduct in the chair.

The chairman having again taken the chair, the secretary read the notice of the special meeting, for confirming the purchase of the Glastonbury Canal and works; and

It was resolved unanimously,—That the provisional agreement for purchasing the Glastonbury Navigation and Canal, and the lands and works connected therewith, approved at the general meeting of proprietors of this company, held on the 1st day of Sept., 1847, be hereby confirmed, and that the Bristol and Exeter Railway Company shall purchase the said Navigation and Canal, with the works, lands, and property of the Glastonbury Canal Company, upon the terms and conditions agreed upon between the said company, and according to the provisions of the 2d section of the Act 11 and 12 Vic., cap. 28, intituled, "An Act for enabling the Bristol and Exeter Railway Company to purchase the Glastonbury Navigation and Canal, and for amending the Acts relating to such Railway and Canal."

JAMES W. BULLER, Chairman.

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**CUNNINGHAM AND CARTER'S NEW SYSTEM OF RAILWAY PROPULSION.**—Railway Directors, Engineers, and the public generally, are invited to examine this system, which may be VIEWED on Mondays, Wednesdays, and Saturdays, from half-past Eleven to Three o'clock, at Ingram's Manufactory, 29, CITY-ROAD, near Finsbury-square. 45

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**RIDER'S RAILWAY BRIDGE.—TO RAILWAY COMPANIES.**—This BRIDGE has now been for 18 months in DAILY USE (having a double track) on the HARLEM RAILWAY, in the State of New York, United States. The Erie Railway and the Newhaven Railway Companies have likewise adopted it.

Several other bridges, for ordinary purposes, are also being constructed. 46

The advantages of this over all other iron bridges hitherto invented, consist in the small amount of iron required, compared with the strength obtained, in avoiding the use of any surplus weight of material, in the consequent economy of its construction, and also from its lightness, easy mode of putting together, and facility of transport, in its peculiar adaptation for foreign use.

As regards economy, it can be erected at a cost not exceeding that of a WOODEN BRIDGE, of equal capability.

Applications to be made to Mr. Moulton, the patentee, Bradford, Wilts; or to Mr Howard Jacobson, Suffolk-lane, Thames-street, London.

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**WHISHAW'S TELEKOUPHONON, OR SPEAKING TELEGRAPH,** has been successfully used in Private Dwellings, Warehouses, Taverns, Subscription Rooms, Offices, and Railway Trains. It is also equally useful for Clubs, Theatres, Lighthouses, Monuments, Docks, Railway Stations, Unions, Lunatic and other Asylums, Ships, Ferries, Bridges, &c.—from 8d. a foot and upwards.

All information respecting the Telekouphonon may be obtained on application to Mr. Edwards, agent, 9, John-street, Adelphi, London. 47

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**CALIFORNIA—TO MERCHANTS, SHIP-BUILDERS,** LORDS OF THE ADMIRALTY, AND CAPTAINS.—The WHEEL-RIGGED SHIP, PATENTED by J. BROWNE, Esq. This ship may have six masts, to be managed by 12 sailors—one-armed men, one-legged men, and some perfectly blind, so that, on arriving at California, they will not fly to the "diggings." The PATENT RIGHT TO BE SOLD.—Visiters to be received from Twelve o'clock till Five. 48

30, Great Portland-street, Portland-place.

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**CALIFORNIA—The BALLOON RAILWAY, PATENTED** by J. BROWNE, Esq.—TO AMERICAN AND ENGLISH CAPITALISTS.—PROPOSED COMPANY, to be established, of the BALLOON RAILWAY, to go from WASHINGTON direct to any particular spot in CALIFORNIA—distance 3000 miles—under favourable circumstances, to be done within the three days. The expenses attendant on the fabrication of the Balloon Railway not to be 1-50th of the present cost, and travelling would be attended with less danger.—Visiters received from Twelve o'clock till Five.—30, Great Portland-street, Portland-place. 49

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**PORTER'S PATENT CORRUGATED IRON BEAMS,** GIRDERS, and FIRE-PROOF FLOORS.—These BEAMS and GIRDERS are about 30 per cent. lighter, and 20 per cent. cheaper, than any others of wrought-iron.—The FIRE-PROOF FLOORS, although not more costly than those of cast-iron, with brick arches and concrete, give greater security from fire, with less than one-tenth of the weight.—MANUFACTORY—IRON BUILDING & ROOFING WORKS, SOUTHWARK.

*OFFICE—2, ADELAIDE-PLACE, LONDON-BRIDGE, CITY.* 50

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**PATENT MINERAL PAINT.**—After three years' trial on the sides and bottoms of iron and timber-built ships, this PAINT has proved itself equal to copper as a protection from vegetation, as well as the sea-worm and all other adhesive matter. It is also peculiarly adapted for spouts and gutters, iron railing, felt or wooden roofs, tarpaulings, damp walls, or any other surface that requires to be made waterproof at a small cost, and is ready for use, in casks of 2 to 20 gallons. 51

Brilliant black, 2s. per gallon—Rich brown, 2s. 9s. per gallon.

EMERSON'S PATENT LIQUID CEMENT.—This valuable and economic PAINT is so adhesive, that it will cling to any surface—brick, Roman cement, and all other plastered work; and, being a rich cream colour, is more pleasing and natural in appearance than oil, and at an *eighth* of the *cost*. It is ready for use, will dry in a few hours, and possesses the property of protecting the walls as well as Roman cement. Sold in casks of 1 cwt. 2 cwts., and 3 cwts., at 8s., 15s., and 21s. per cask. GEO. LEAR & CO., Sole Agents, 16, Basing-lane, Cheapside.

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**JAMES BOYDELL, LAND, MINE, AND MACHINERY VALUER, AND AGENT,**
*No. 54, THREADNEEDLE-STREET, LONDON,*

Has to DISPOSE OF a large quantity of STEEL and MANUFACTURED HARDWARE, now warehoused in London.

Several valuable PATENT RIGHTS, some of which have been profitably worked. 52

A FREESTONE QUARRY, in North Wales, from which, on account of its quality, the small cost of getting and working it, and its proximity to the sea, London may be supplied at lower prices than those now ruling for much inferior stone, and a large profit left to the proprietor.

An IRONSTONE MINE, likewise in North Wales, worked open cast, close to a shipping port, and now in profitable work.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete, with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an unusual return to the purchasers of them.

J. BOYDELL has also at his DISPOSAL a RESIDENCE and LANDED PROPERTY in SHROPSHIRE, which is in a good neighbourhood, and which (a large portion of the land adjoining the house being of a most picturesque character, and well timbered, with a streamlet running through it) might be made a country residence for any nobleman or gentleman, such as but few in the kingdom would bear comparison with.

Particulars of the above may be had, upon application, at 54, Threadneedle-street.

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**LAND AND MINERAL SURVEYING, PONTYPRIDD,** GLAMORGANSHIRE.—W. T. LEWIS begs most respectfully to inform Landowners, Coal Proprietors, and other gentlemen, that he has just COMMENCED BUSINESS in the ABOVE LINE, at this place, and hopes that, by strict attention and adherence to integrity, he may be honoured with their support.

Every department of SURVEYING executed with fidelity, accuracy, and dispatch. 53

Mill-street, Pontypridd, Feb. 14, 1849.

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**TO ENGINEERS AND BOILER MAKERS.**—The BIRMINGHAM PATENT IRON TUBE COMPANY MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam, and other purposes. All sorts of IRON GAS FITTINGS.

WORKS—Smethwick, near Birmingham.
LONDON WAREHOUSE—No. 6, Upper Thames-street. 54

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**TO PUBLIC COMPANIES, MERCHANTS, MINERS, &c.**—EVERY DESCRIPTION of ACCOUNT BOOKS requisite for the COUNTING-HOUSE or BOARD-ROOM, manufactured to any pattern and ruling, hot-pressed, and bound in the most durable manner (paged in type, without additional cost), on a scale of charges reduced to meet the times.—WRITING PAPERS, ENVELOPES, and STATIONERY, of the very best description, on the like reduced scale. Lists on application.

F. W. RALPH, COMMERCIAL STATIONER,
36, *THROGMORTON-STREET, BANK, LONDON.* 55

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**ECONOMICAL STEAM-ENGINE—Surpassing the Cornish.** CRADDOCK'S PATENT DOUBLE CYLINDER HIGH-PRESSURE EXPANSIVE AND CONDENSING ENGINE,

Alike ADAPTED FOR MARINE, LOCOMOTIVE, AND STATIONARY PURPOSES.

BOILER.—Tubular, free from deposit, and perfectly safe from explosion.
ENGINE.—Not half the weight or bulk of ordinary engines.
FUEL.—Not half that required by the best engines of the common kind.
WATER.—Under one gallon per horse-power per day of 10 hours, for all purposes, with air as the medium of condensation.

These engines are erected at a comparatively trifling expense, and are easily worked.

FOR SALE.

| | | | |
|---|---|---|---|
| TWO 40-horse power ENGINES, suited to condense either by air or water. | | | 56 |
| ONE 25-horse power | ditto | ditto | ditto |
| TWO 20-horse power | ditto | ditto | ditto |
| ONE 14-horse power | ditto | ditto | ditto |

A PAIR of OSCILLATING MARINE ENGINES, of 10-horse power.

PRICE.—£20 per horse-power.

These engines are quite new, with boiler, condenser, and regulating damper—all got up in the best and simplest manner. They are much simpler, and almost beyond comparison more compact than the Cornish engine, also more safe and economical than even those engines, yet the price of the Cornish is nearly double that at which these are offered.—Parties wanting engines will find in the above good bargains.

Apply to Thomas Craddock and Co., engineers, 36 and 38, Broad-street, Birmingham, where engines on the above principle may be seen at work.

Also ON SALE, THREE 4-horse HIGH-PRESSURE ENGINES, simply arranged, and well got up.—Price £12 per horse-power.

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**STEAM TO INDIA AND CHINA, VIA EGYPT.**—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY 57

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 29th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA—On the 20th and 29th of every month. CONSTANTINOPLE—On the 29th of the month. ALEXANDRIA—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages, and ship cargo apply at the company's offices, No. 122, Leadenhall-street, London; and 57, High-street, Southampton.

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**OVERLAND GOODS AND PARCELS FOR INDIA, ADEN,** CEYLON, MADRAS, CALCUTTA, SINGAPORE, CHINA, and BOMBAY, should be DELIVERED not later than noon on the 17th of each month; and if forwarded on the 18th, will be subject to an extra charge.

When the 18th falls on a Sunday, no package will be received after the 17th, and cases must not exceed 70 lbs. in weight, and when measuring over one cubic foot, they must be strong, and well hooped at the ends. 58

Peninsular and Oriental Steam Navigation Company's Offices,
122, Leadenhall-street, London, Feb. 23, 1849.

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**EMIGRATION FACILITATED.**—Those persons who expect their friends in AUSTRALIA to ASSIST them in their OUTFIT, might write to their friends there to pay the money into the hands of S. W. SILVER & CO.'S AGENTS in AUSTRALIA, or to their connections in the district, who would be named on application to S. W. SILVER & CO., in London. The agent's acknowledgment would be received by S. W. SILVER & CO., as CASH at the exchange of the day, for the OUTFIT. This proposal will be also communicated through the COLONIAL JOURNALS. EMIGRANTS' fitting-out warehouse at No. 4, Bishopsgate-street (opposite the London Tavern), where colonial information may be obtained, and small parcels received and forwarded to the colonies. 59

N.B.—CADETS to INDIA, and CABIN PASSENGERS generally to all parts of the globe (with experienced Female Managers in the Department for Ladies), fitted out as heretofore at 66 & 67, Cornhill, by S. W. SILVER & CO., OUTFITTERS, CLOTHIERS FOR HOME USE, and CONTRACTORS; and at St. George's-crescent, LIVERPOOL.

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IMPORTANT TO MINE OWNERS, &c.

**GUTTA PERCHA COMPANY—PATENTEES,** CITY-ROAD, LONDON.

The GUTTA PERCHA COMPANY beg to bring under the notice of Mine Owners, Manufacturers, &c., the GREAT SAVING, both of time and expense, which is effected by the use of the GUTTA PERCHA PUMP BUCKETS and VALVES. These Buckets may be had of any size or thickness, *without any seam or raised joint*. They are unaffected by acids, alkalies, &c. Cold water will never soften them, and they are, consequently, much more durable than leather, and also cheaper. The most gratifying testimonials have been received from millowners, who have had these Buckets in operation for several months past, without the slightest repairs being required. 60

GUTTA PERCHA TUBING

Being so remarkable a CONDUCTOR of SOUND, is now being extensively applied for CONVEYING MESSAGES from ONE BUILDING, or PLACE, to ANOTHER. If a Tubing of this material, 1 inch diameter, be carried from the mouth of a mine, or pit, down the shaft, to various parts of the mine (no matter whether a quarter or half a mile distant), an instant communication may be established by means of the whistle, on Whishaw's principle, and a conversation carried on as distinctly as though the parties were but a few feet from each other. When these Tubes are in general use, they will greatly lessen the *loss of life in mines*.

GUTTA PERCHA DRIVING BANDS

Continue to secure a continually increasing demand; they can be had of any size or length. Their durability and strength, permanent contractility and uniformity of substance, their non-susceptibility of injury from contact with oils, grease, acids, alkalie, or water, and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior for almost all working purposes, and decidedly economical.

GUTTA PERCHA Soles for Boots and Shoes, Bowls, Buckets, Picture Frames, Brackets, Mouldings, Surgical Instruments, Vases, Cups, Inkstands, Balls, &c., may be had at the Company's Works, Wharf-road, City-road, London, or of any of their wholesale dealers n town or country.

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**ANDREW SMITH'S PATENT WIRE ROPE—NOTICE AND CAUTION.**—The UNDERSIGNED begs to inform the Public, and especially the MINING, RAILWAY, and SHIPPING INTEREST, that he has become SOLE LICENSEE of Mr. ANDREW SMITH, for the MANUFACTURE and SALE of his PATENT WIRE ROPE; and that he has taken to the premises, late Mr. Smith's, at Millwall, Poplar, where orders will be executed with the utmost attention and dispatch, and on reasonable terms. WILLIAM WILKINS. 61

Patent Wire Rope Works, Millwall, Poplar, Nov., 1849.

CAUTION.—Persons PURCHASING, or USING, the PATENT WIRE ROPES, NOT MANUFACTURED by the above LICENSEE, are warned that they will be liable to be sued for damages as infringers of Mr. Smith's Patent.

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**THE PATENT OFFICE AND DESIGNS REGISTRY,**
*No. 210, STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees. 62

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

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**DUISBURG IRON-WORKS AND MINES,** in WESTPHALIA, CLOSE TO THE RHINE.
*MANAGED IN ENGLAND ON THE COST-BOOK PRINCIPLE.*

The demand of the North-Western States of the Zollverein for pig-iron smelted with coke requires an annual importation which, in 1846, exceeded 100,000 tons of that metal. Its present average current price, in Westphalia, inclusive of duty, is, per ton £5 16 8

Being possessed of extensive mines of iron ore, *entirely paid for*, the Duisburg Company proposes to turn out this year only 150 tons of pig-iron, made with coke, per week, which, owing to circumstances peculiarly favourable as to minerals, fuel, and carriage, can be produced at a cost, per ton, not exceeding 3 0 0 63

Thus leaving for division among the holders of the 3000 shares, in which the capital stock is divided, a *net profit*, per ton, of £3 16 8

Or £9 per share of £15.

Every further information to be obtained, and specimens inspected, at the company's offices in London, 28, Moorgate-street.

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**COMBINED VAPOUR ENGINE COMPANY.**
*PROVISIONALLY REGISTERED.*

Capital £360,000, in 12,500 shares, of £20 each.

Deposit £2 per share—2s. to be paid upon allotment, and the remainder of the deposit upon complete registration. 64

TRUSTEES.

JOSEPH THOMPSON, Esq., John-street, Bedford-row.
THOMAS VARDON, Esq., Esher, Surrey.

DIRECTORS.

C. OGLE, Esq., Withdean House, near Brighton.
GEORGE CLARKE, Esq., Hans-place, Sloane-street.
JOHN WEBSTER, Esq., Blackburn House, Southgate, Middlesex.
D. AUSTIN, Esq., Paragon, Worthing.

AUDITORS.

Thomas Young M'Christie, Esq., Great James-street, Bedford-row.
Charles Brockman, Esq., St. John's-place, Battersea-rise.

BANKERS.

The Commercial Bank of London.

CONSULTING ENGINEER.

Mons. Du Trembley de Lyons, C.E., &c. &c.

ACTING ENGINEER.

Mr. John Harris, London-bridge Station.

SOLICITORS.

Messrs. Richardson and Talbot, 47, Bedford-row.

SECRETARY—B. Talbot, Esq.

Applications for shares may be made to the secretary, at the offices of the company, 47, Bedford-row, where prospectuses, with the form of application for shares, and every information respecting the company may be obtained, as well as cards of admission to view the engine.

This company has been formed for the purpose of carrying out a patented invention, known as the "Combined Vapour Engine."

The invention is applicable to all purposes for which steam-power is employed, and may be adapted to existing steam-engines, at a comparatively trifling cost.

By the application of this invention to the ordinary steam-engine, the power is more than doubled, without any increase in the consumption of fuel; and, consequently, a saving of at least one-half in the cost of working the engine, as well as in the space occupied, is effected.

The Combined Vapour Engine is exhibited in action every Friday, from One to Three.

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KENT AND SUSSEX

**INDURATED AND IMPERVIOUS STONE COMPANY.**

Capital—£20,000, in 2000 shares, of £10 each. 65

[*Provisionally Registered.*]

N.B.—ORDERS EXECUTED FOR PAVING, &c.

Apply for prospectuses, &c., to Mr. William Hutchison, Calverley Quarry, Tunbridge Wells; or to Messrs. Hutchison, Wilford, and Co., East Temple Chambers, 2, Whitefriars-street, Fleet-street, London.

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BY ROYAL LETTERS PATENT.

**THE DIATONIC FLUTE is quite NEW in its CONSTRUCTION,** and retains the old system of fingering. 66

Amateurs in the provinces have the opportunity of hearing this instrument played by Mr. Richardson, at Jullien's Concerts.—Description forwarded free, on application to the patentee. *MANUFACTORY, 135, FLEET-STREET.*

Published price 5s., "Theory of the Diatonic Flute," by A. Siccama, B.A., patentee.

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This day is published,

**TREATISE ON BAROMETERS: an Explanatory Pamphlet** on the ANEROID, a newly-invented portable barometer, with a short historical Notice on Barometers in general—their construction and use; accompanied by a full, clear, and accurate table for determining the measurement of heights. 67

ILLUSTRATED WITH WOODCUTS.

By EDWARD J. DENT, F.R.A.S.

Price 1s. 6d.; or forwarded post-free, on receipt of 24 postage stamps: 33, Cockspur-street; 82, Strand; and 34, Royal Exchange (Clock Tower Area).—The price of the Aneroid is £3 3s., including pamphlet.

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Just published,

**GEOGRAPHICAL AND MINERALOGICAL NOTES,** to ACCOMPANY Mr. WYLD'S MAP of the GOLD REGIONS of CALIFORNIA. 68

London: Published by James Wyld, Geographer to the Queen and Prince Albert, 6, Charing-cross East, and 2, Royal Exchange; and Simpkin & Marshall, Stationers'-Court. Price One Shilling; with Map, Three Shillings.

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**THE MINING ALMANAC.**—In the absence of the Parliamentary Returns, the publication of this work has been necessarily delayed; it will, however, appear in the course of a FEW DAYS—containing much original and statistical matter, occupying upwards of 400 pages. 69

25, Fleet-street, Feb. 22, 1849.

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**PATENT IMPROVEMENTS IN CHRONOMETERS,** WATCHES AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 70

DENT'S PATENT DIPLIEDOSCOPE,

or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

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**PATENT ALKALI COMPANY'S IRON PAINT.**—This PAINT is the PRODUCT of a PATENT PROCESS, and possesses PECULIAR and VALUABLE PROPERTIES, not otherwise attainable. 71

Its colour (as at present produced) is a rich *purple-brown*. It is perfectly free from the deleterious qualities of white lead.

It surpasses all other paints ever yet discovered, in point of *durability* and *economy*. Two coats of this paint are more than equal to three of any other description.

From its chemical composition, it is pre-eminently adapted for covering *iron*, also *wood*, and *stuccoed*, or *brick buildings*. The process by which the base of this paint is produced, makes it impossible that any change should take place in its composition from atmospheric influence. Its identity with iron secures it from galvanic action, so fatal to the durability of lead and other paints on iron work.

It has been exposed on shipping to the action of sea-water, and of the sulphuretted hydrogen, so prevalent in sea-ports and tidal harbours, for more than three years, without change.—Its *cheapness* and *strength* render it peculiarly suitable for *iron bridges, roofs*, and *railings, farm buildings*, and *shipping*. It will also cover creosoted timber.

Price, by the ton, £25, delivered in London, exclusive of packages.

Agents will be appointed for the principal towns in the United Kingdom; in the mean time, orders may be addressed to the offices of the company, No. 20, Fenchurch-street, London. JOHN A. WEST, Secretary.

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**PLANTAGENET GUARD RAZORS,** Manufactured under the authority of LETTERS PATENT GRANTED by HER MAJESTY THE QUEEN, and under the especial Patronage of the Nobility and Gentry, the Army and Navy, the Clergy, the Bar, and the Faculty.

The Razor is made of the finest tempered steel, imparting a matchless smoothness and keenness to the edge; and the addition of the Guard causes the Razor to glide with safety over the face, removing the beard without the possibility of cutting the skin.

Guard Razors are fitted for right-hand and for left-hand shaving exclusively. 72

Best black handles, per pair, 12s.; single, 6s. Best ivory handles, 16s. per pair, single, 8s.—Sent post-free for 8d. each extra.

A pair of the best Razors, elegantly finished, in a superior Russia box, is a valuable present for a nervous, paralysed, or short-sighted friend—price One Guinea; sent free for 1s. 6d. extra. The Razors are warranted, and will be exchanged if found imperfect. A single Razor, of the same quality and finish, in a neat roan case, sent free for 10s.

C. STEWART & CO., Patentees, removed from 140, Strand, to 22, Charing Cross, London. Post-office orders to be made payable to them at the Charing Cross post-office.

CAUTION.—Every Guard is stamped with the signature of "C. Stewart and Co.," to imitate which is forgery.—A full description of the invention, with testimonials from practical application, sent post-free.

"We have used the Plantagenet Razor, and found shaving to be performed with the greatest freedom and ease, and with perfect safety."—*Mining Journal.*

"Among the most valuable discoveries of modern times."—*Morning Post.*

"To all men a source of comfort."—*Morning Herald.*

"The blind, the nervous, and the invalid can get through the operation of shaving with perfect security."—*Sunday Times.*

"It is literally a fact, that this razor can be used by the operator with perfect security in almost any situation. It can be used in bed, on a railway, or even in a carriage on the common roads. This guarded razor is really a splendid invention."—*Lancet.*

PLANTAGENET RAZOR STROP.—The peculiarity of this strop consists in not yielding to the razor blade, like the ordinary razor strop, but gives that angular sharpness which alone preserves the keenness of the cutting edge.—Prices, 2s. 6d. and 3s. 6d.; sent dost-free for 6d. extra.

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London: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors), at their offices, No. 95, FLEET-STREET, where all communications are requested to be addressed. [March 3, 1849.